Univerza v Ljubljani

University of Ljubljana

Fakulteta za računalništvo in informatiko

Faculty of Computer and Information Science

University *of Ljubljana*
Faculty *of Computer and Information Science*

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REPUBLIC OF SLOVENIA
MINISTRY OF EDUCATION, SCIENCE AND SPORT

1 Dekanov nagovor
2 Univerza v Ljubljani
4 O fakulteti
6 Ustvarjamo prihodnost
8 Sodobni prostori
10 Dodiplomski študijski programi
12 Magistrski študijski programi
14 Doktorski študijski programi
16 Mednarodno sodelovanje
18 Znanstveno-raziskovalno delo
20 Raziskovalni laboratoriji
30 Sodelovanje z gospodarstvom
32 Računalniška skupnost in družba
34 Slovenija in Ljubljana

Dekanov nagovor

Računalništvo in informatika pomenita veliko več kot le visokotehnološko področje, s katerim se ukvarjajo zgolj inženirji, raziskovalci in tehnološki navdušenci. Sta nekaj, s čimer vsak dan živimo prav vsi. Zmogljivi računalniki predstavljajo možgane vse številčnejših elektronskih naprav in kompleksnih informacijskih sistemov, s katerimi poganjamo gospodarstvo, pospešujemo delovne procese, sproščamo ustvarjalnost, vzdržujemo stike s prijatelji in družino, se informiramo in zabavamo ter si olajšamo celo gospodinjska opravila. Ta vseprisotnost računalništva nudi izjemne razvojne priložnosti in hkrati prinaša številne izzive, ki se jih je treba lotiti preudarno in odgovorno.

Na Fakulteti za računalništvo in informatiko Univerze v Ljubljani smo zbrani najboljši strokovnjaki, pedagogi in raziskovalci v Sloveniji, ki nam je mar za kakovost ter razvoj računalništva in informatike. Z raziskovanjem sledimo hitremu razvoju in sooblikujemo nove trende, vsa znanja in dognanja pa delimo s študenti. Veseli smo, da se v dinamičnem visokotehnološkem okolju naši študenti hitro uveljavijo ter da številni najboljši svojo kariero nadaljujejo na fakulteti in tako prispevajo k odličnosti študijskega procesa in raziskovalnega dela.

Vedno smo odprti za nova sodelovanja, saj verjamemo, da je to prava pot do napredka. Vabim vas torej na Fakulteto za računalništvo in informatiko, kjer ustvarjamo nove svetove. Naredimo naslednji korak skupaj!

prof. dr. Bojan Orel
dekan Fakultete za računalništvo in informatiko Univerze v Ljubljani

1 Address by the Dean
3 University of Ljubljana
5 About the Faculty
7 Creating the Future
9 Modern Facilities
11 Undergraduate Study Programmes
13 Master's Study Programmes
15 Doctoral Study Programmes
17 International Cooperation
19 Research Work
21 Research Laboratories
31 Cooperation with Economy
33 Computer Science Community and Society
35 Slovenia and Ljubljana

Address by the Dean

Computer and information science are much more than just a high-tech field occupied only by engineers, researchers and technology enthusiasts. They are something with which every single one of us lives every day. Powerful computers represent the brains of ever more numerous electronic devices and complex information systems that we use to drive the economy, speed up work processes, unleash creativity, maintain contacts with friends and family, inform and entertain ourselves and even lighten our household chores. This universal presence of computer science offers extraordinary development opportunities, as well as presenting numerous challenges that we must face prudently and responsibly.

The Faculty of Computer and Information Science of the University of Ljubljana gathers together the best experts, educators and researchers in Slovenia, who care about the quality and development of computer and information science. As researchers we keep pace with rapid development and co-create new trends, and we share all knowledge and findings with our students. We are happy to see that our students are able to establish themselves quickly in today's dynamic high-tech environments and that many of our best students choose to pursue their careers in the Faculty, thereby contributing to the excellence of its study process and research work.

We are always open to new collaboration, for we believe that this is the right path to progress. We therefore invite you to join us at the Faculty of Computer and Information Science, where we are creating new worlds. Let us take the next step together!

Prof. Bojan Orel, PhD
Dean of the Faculty of Computer and Information Science, University of Ljubljana

Univerza v Ljubljani

Univerza v Ljubljani je ustanova z bogato tradicijo. Ustanovljena je bila leta 1919 na podlagi večstoletne izobraževalne tradicije.

Univerza v Ljubljani slovi po kakovostnih družboslovnih, naravoslovnih, humanističnih in tehničnih študijskih programih, ki so pripravljeni v skladu s smernicami bolonjske deklaracije. Fakulteta za računalništvo in informatiko je polnopravna članica Univerze.

Univerzitetni raziskovalci in raziskovalne skupine se s svojim znanstvenoraziskovalnim delom izkazujejo z vrhunskimi projekti na področju umetnosti, znanosti in tehnologije doma in po svetu. Univerza je tesno povezana s slovenskim gospodarstvom in tujimi podjetji, med njenimi partnerji so multinacionalke in najuspešnejša domača podjetja.

Univerza se uvršča v prve tri odstotke najboljših univerz na svetu po Šanghajski lestvici, Timesovi lestvici in lestvici Webometrics.

Osrednje poslopje Univerze, akademije in številne fakultete se nahajajo v mestnem jedru. Novejše univerzitetne stavbe stojijo na obrobju Ljubljane, kar daje univerzi in njenim študentom pridih vsenavzočnosti v mestu.

23 fakultet

3 umetniške akademije

50.000 študentov

6.000 zaposlenih

University of Ljubljana

The University of Ljubljana is an institution with a rich history. Opening its doors in 1919 on the foundations of a centuries-long educational tradition in the region, the University of Ljubljana has a reputation for impeccable quality in social sciences, physical sciences, humanities, and technical programmes, which are designed according to the stipulations of the Bologna Process. The Faculty of Computer and Information Science is a full member of the University.

Research staff and research groups at the University have proved themselves with world-renowned studies and projects in the fields of the arts, science and technology – both at home and abroad.

The University maintains close connections with the Slovenian private sector and with companies from abroad, and its partner institutions include many multinationals and some of the most successful domestic enterprises.

According to Webonomics, Time and the Shanghai ranking, the University is among the top 3 % universities in the world.

The main administration building, the fine arts academies, and a number of individual faculties are located in the heart of Ljubljana, while there are newer university buildings on the city's outskirts, giving students the feeling that the university is all around them.

23 faculties

3 art academies

50,000 students

6,000 employees

O fakulteti

Fakulteta za računalništvo in informatiko Univerze v Ljubljani je vodilna visokošolska in raziskovalna institucija na področju računalniške in informacijske znanosti v Sloveniji.

Glavna dejavnost fakultete je dodiplomsko in podiplomsko izobraževanje računalniških strokovnjakov različnih profilov ter raziskovalno in znanstveno delovanje, ki ustvarja nova znanja in išče rešitve za sodobne probleme. Ob tem fakulteta izvaja dopolnilna izobraževanja s področij računalništva in informatike za različne strokovne profile, z vabljenimi predavanji in delavnicami dviguje raven računalniške pismenosti v družbi in z javnimi dogodki skrbi za popularizacijo računalniškega mišljenja zlasti med otroki in mladimi.

Fakulteta je bila ustanovljena leta 1996, in sicer z razcepitvijo dotedanje Fakultete za elektrotehniko in računalništvo na dve novi fakulteti. Sam študij računalništva se je na ljubljanski Univerzi pričel že leta 1973, najprej kot usmeritev po 2. letniku študija elektrotehnike, od leta 1982 pa kot samostojni študij.

študentov: **1.300**

študijskih programov: **11**

diplomantov: **3.800**

visokošolskih učiteljev in asistentov: **100**

raziskovalcev in mladih raziskovalcev: **50**

zaposlenih v skupnih službah: **30**

About the Faculty

The Faculty of Computer and Information Science of the University of Ljubljana is Slovenia's leading educational and research institution for computer and information science.

The Faculty's main function is educating undergraduate and graduate computer science experts of various profiles, as well as engaging in research work which generates new knowledge and uncovers solutions to contemporary problems. The Faculty also offers additional educational activities in computer and information science for several professional profiles by hosting lectures and workshops to increase the level of computer literacy in the country. Its public events also serve to popularise ideas about computers, especially among young people.

The Faculty was founded in 1996, when the Faculty of Electrical Engineering and Computer Science split into two separate faculties. The study of computer science itself began at the University of Ljubljana back in 1973, first as an elective programme after the 2nd year of electrical engineering study, and has been an independent study programme since 1982.

1,300 students

11 study programmes

3,800 graduates

100 teaching staff and assistants

50 researchers and junior researchers

30 administrative staff

"I have learnt that computer science is not only a study programme; it is also a way of life."

–Undergraduate student

Ustvarjamo prihodnost

Poslanstvo

Fakulteta za računalništvo in informatiko je skupnost visokošolskih učiteljev, študentov, raziskovalcev in sodelavcev, ki v okolju akademske svobode skrbijo za ustvarjanje, izmenjevanje in prenašanje znanja s področja računalništva in informatike in si ob tem prizadevajo za kakovost ob spodbujanju interdisciplinarnosti in multidisciplinarnosti.

Vizija

Fakulteta za računalništvo in informatiko želi biti prepoznavna v svetu in med vodilnimi fakultetami na svojem področju v srednji in jugovzhodni Evropi. S svojimi dosežki želi prispevati k razvoju stroke in splošnemu razvoju v okolju, v katerem deluje.

Kakovost

Usmerjenost v kakovost delovanja je del poslanstva, vizije in vrednot Fakultete za računalništvo in informatiko. Skrb za kakovost je del znamke kakovosti, ki poteka preko načrtovanja, spremljanja delovanja, sprotnega odpravljanja napak, samoevalvacij in strateškega planiranja. Razvijati želimo kulturo kakovosti, v to vključiti vse sodelavce in dvigniti nivo pripadnosti fakulteti.

Mednarodna akreditacija ASIIN, ki jo je pridobila fakulteta, izkazuje kakovost inštitucije in študijskih programov v mednarodno priznanem merilu.

Creating the Future

Mission

The Faculty of Computer and Information Science comprises a group of teachers, students, researchers and other collaborators who enjoy academic freedom in their pursuit of the creation, exchange and transfer of knowledge related to computer science and who in doing so strive both for impeccable quality and for encouraging inter- and multidisciplinary approaches.

Vision

The Faculty of Computer and Information Science endeavours to be recognized across the world as among the leading faculties in its field in the region of central and southeastern Europe. Its aim is to contribute to the field's development and the general development of the environment in which it operates.

Quality

Insistence on the quality of its operations is an integral part of the mission, vision, and values of the Faculty of Computer and Information Science. This insistence is reflected in quality-assurance, immediate reporting of errors or inconsistencies, self-evaluation, and strategic planning. We aim to foster a culture of quality, to include all our colleagues in that culture, and increase students' sense of belonging to the Faculty. ASIIN international accreditation is a testament to the quality of the institution and its study programmes as assessed against the international standard.

"The Faculty of Computer and Information Science has aided me during my studies with a broad spectrum of knowledge and the helpfulness of its staff, who work every day to make the studies extremely fun and exciting."

–Master's student

Sodobni prostori

Leta 2014 se je fakulteta preselila v novo stavbo na lokaciji Brdo na obrobju Ljubljane. Ta je nastala kot rezultat večletnega projekta gradnje novih objektov Fakultete za kemijo in kemijsko tehnologijo ter Fakultete za računalništvo in informatiko. Gre za največjo investicijo v zgodovini Univerze v Ljubljani ter za dotlej največji projekt v Sloveniji, ki je bil sofinanciran s strani Evropske unije.

V novogradnji, ki jo sestavljajo tri stavbe, si fakulteti delita osrednji objekt. V njem se nahaja velika predavalnica s 300 sedeži, velika sodobna knjižnica s čitalnico, fotokopirnica ter restavracija.

V glavnem objektu Fakultete za računalništvo in informatiko je velika predavalnica z 200 sedeži, 8 manjših predavalnic, 12 računalniških učilnic, prek 20 raziskovalnih laboratorijev, kabineti učiteljev in pisarne strokovnih sodelavcev v skupnih službah.

S selitvijo vseh sodelavcev pod skupno streho se je okrepila in poživila akademska skupnost. Več je medosebne komunikacije in sodelovanja. Veliko prostora je v odprti in svetli zasnovi prostorov namenjenega neformalnemu druženju in izmenjavi idej, obenem pa v sodobni fakulteti gostujejo zunanji predavatelji, konference, delavnice in poletne šole, ki bogatijo izobraževalno-raziskovalni proces z novimi idejami in izkušnjami iz prakse.

Modern Facilities

In 2014, the Faculty moved to a new building in Brdo at the outskirts of Ljubljana. This followed a several-year construction project of new buildings for the Faculty of Chemistry and Chemical Technology and the Faculty of Computer and Information Science. This is the largest investment in the history of the University of Ljubljana and the largest project in Slovenia to be co-financed by European funds.

The new construction comprises three buildings, with the Faculties sharing the central one. This contains a large lecture hall with 300 seats, a large modern library with a reading room, a copy shop, and a restaurant.

The Faculty of Computer and Information Science's main building has a lecture hall with 200 seats, 8 smaller lecture halls, 12 computer rooms, over 20 research labs, a faculty lounge, and offices for support staff.

By moving the whole faculty under one roof, the academic community has been strengthened and invigorated, as there is more interpersonal communication and collaboration. In the new open and well lit design, a lot of space is reserved for informal socialisation and exchanging ideas, while the modern Faculty hosts external lecturers, conferences, workshops, and summer schools, which enrich the educational and research processes with new ideas, experiences, and best practices.

Dodiplomski študijski programi

3-letni študij, 5 študijskih programov

Dodiplomski študijski programi prve bolonjske stopnje ponujajo osnovna znanja s področja računalništva in informatike ter zagotavljajo kakovostne temelje za profesionalne in karierne poti diplomantov, pogoje za vzgojo novih generacij strokovnjakov, raziskovalcev in pedagogov ter razvoj strokovnega področja v prihodnosti.

Visokošolski strokovni program Računalništvo in informatika

Študij daje poudarek praktičnim znanjem in strokovnostim s področja računalništva in informatike, vključuje strokovno prakso v računalniških podjetjih in je primarno namenjen takojšnji zaposljivosti diplomantov.

Univerzitetni program Računalništvo in informatika

Študij razvija vrhunsko strokovnost s pridobivanjem temeljnih teoretičnih in tudi praktičnih znanj, ki so potrebna tako za nadaljnji študij na drugi in tretji bolonjski stopnji kot tudi za delo v visokotehnoloških razvojnih podjetjih in na znanstveno-raziskovalnem področju.

Interdisciplinarni univerzitetni program Računalništvo in matematika

Študij se izvaja skupaj s Fakulteto za matematiko in fiziko. Usmerjen je v teoretične osnove računalništva in z njimi povezana sodobna področja diskretne in računalniške matematike.

Interdisciplinarni univerzitetni program Upravna informatika

Študij se izvaja skupaj s Fakulteto za upravo. Študij daje poglobljena znanja iz računalniških in informacijskih tehnologij, interneta ter upravno-pravnih, ekonomskih in organizacijskih znanj, ki so potrebna za razumevanje delovanja javne in poslovne uprave.

Interdisciplinarni univerzitetni program Multimedija

Študij se izvaja skupaj s Fakulteto za elektrotehniko. Usmerjen je v področja, ki jih obsega multimedija, in tako združuje znanja elektrotehnike, računalništva, oblikovanja, komunikacij in poslovnih ved, ki so temelj novih industrij.

Undergraduate Study Programmes

3-year study, 5 study programmes

First-cycle Bologna programmes offer basic education in computer and information science and provide proper foundations for graduates' further careers, and provide the conditions for educating a new generation of experts, researchers, and teachers, as well as for the development of the field itself in the future.

Professional Study Programme in Computer and Information Science

The programme emphasises practical knowledge and expertise in computer and information science, includes job-placement in computer firms, and is primarily intended to land graduates in employment immediately upon graduation.

University Study Programme in Computer and Information Science

This study develops world-class expertise through the acquisition of fundamental theoretical and practical know-how, which is necessary both for further study in the second- and third-cycle Bologna process, as well as for work in high-tech development firms and in scientific research.

Interdisciplinary Study Programme in Computer Science and Mathematics

This study programme, held jointly with the Faculty of Mathematics and Physics, is dedicated to the theoretical background of computer science and the related modern field of discrete mathematics and computer mathematics.

Interdisciplinary Study Programme in Administrative Information Systems

This programme is held jointly with the Faculty of Administration. Students will acquire in-depth knowledge of computer and information technology, the internet, and organisational, economic, and administrative knowledge that is necessary for understanding how the public and private sectors handle administration.

Interdisciplinary Study Programme in Multimedia

This programme is held jointly with the Faculty of Electrical Engineering. It is dedicated to topics in multimedia, thus combining know-how of electrical engineering, computer science, design, communication, and business science, which are the foundations of new industries.

Magistrski študijski programi

2-letni študij, 4 študijskih programov

Magistrski študijski programi druge bolonjske stopnje so nadgradnja študija na prvi stopnji in z visoko izbirnostjo vsebin omogočajo vrhunsko specializacijo za strokovne profile s področja računalništva in informatike. Programi spodbujajo interdisciplinarno in mednarodno sodelovanje ter diplomante usposobijo za vodilne položaje v industriji in podjetniškem svetu ter za delo na akademskem področju.

Magistrski program Računalništvo in informatika

Študij ponuja širok spekter znanj in spretnosti, s katerimi bodo magistri vedno sposobni slediti tehnološkim spremembam in novostim ter bodo narekovali razvoj, kar nudi izjemne možnosti za zaposlitev v Sloveniji in po svetu. Z namenom večjega mednarodnega sodelovanja se del predmetnika izvaja v angleškem jeziku. V okviru programa je mogoče študij zaključiti z dvojno diplomo na dvojnem magistrskem programu s Tehniško univerzo Gradec v Avstriji.

Interdisciplinarni magistrski program Računalništvo in matematika

Študij se izvaja skupaj s Fakulteto za matematiko in fiziko. Študij razvija sposobnost hitrega obvladovanja novih spoznanj in dosežkov in je usmerjen v usposabljanje za delo v vseh panogah gospodarstva, od informacijsko-komunikacijskih tehnologij do računalniške in matematične podpore pri obvladovanju kompleksnih sistemov.

Interdisciplinarni magistrski program Pedagoško računalništvo in informatika

Študij se izvaja skupaj s Pedagoško fakulteto in prispeva k boljši izobrazbi učiteljev ter s tem dviga kakovost pouka računalništva v slovenskih šolah. Magistri tega študija bodo obvladali računalništvo in bili istočasno usposobljeni za pedagoško delo.

Interdisciplinarni magistrski program Kognitivna znanost

Študij se izvaja skupaj s Pedagoško, Medicinsko in Filozofsko fakulteto ter s konzorcijem tujih univerz. Nevroznanost, umetna inteligenca, biologija, jezikoslovje, antropologija, filozofija in psihologija so temeljne discipline, ki jih zajema študij, da usposobi strokovnjake za znanstveno in aplikativno usmerjeno raziskovanje človekove duševnosti.

Master's Study Programmes

2-year study, 4 study programmes

The Faculty's second-cycle Bologna programmes build upon the study of the first cycle and with a large amount of elective content students can specialise precisely in the professional computer and information science profile that they want. The programmes encourage interdisciplinary and international collaboration and prepare graduates for leading positions in the industry and private sector, as well as for work in academia.

Master's Programme in Computer and Information Science

This study programme offers a broad range of knowledge and skills that the future masters will use to keep up with changing technology and innovations. They will also require personal development, which leads to excellent employment opportunities both in Slovenia and abroad. For porposes of international cooperation a part of the curriculum is available in English. It is also possible to receive a double degree from the Graz University of Technology in Austria.

Interdisciplinary Master's Programme in Computer Science and Mathematics

This study programme, held jointly with the Faculty of Mathematics and Physics, develops students' ability to quickly master new subjects and achievements and is dedicated towards training them for working in all economic fields, from ICT to computer science, and providing support in mathematically analysing and managing complex systems.

Interdisciplinary Master's Programme in Computer Science Education

This programme is held jointly with the Faculty of Education and contributes to the better education of teachers, thereby also increasing the quality of computer classes in Slovenian schools. Graduates from this programme will have extensive knowledge of computer science, while also receiving training in pedagogy.

Interdisciplinary Master's Programme Cognitive Science

This programme is held jointly with the Faculties of Education, Medicine, and the Arts, as well as with a consortium of foreign universities. Neuroscience, AI, biology, linguistics, anthropology, philosophy, and psychology form the basic disciplines which encompass this programme, intended to train experts for both scientific and applied research into the human psyche.

Doktorski študijski programi

3-letni študij, 2 študijska programa

Doktorski študijski program tretje bolonjske stopnje je primarno usmerjen v usposabljanje študentov za samostojno in timsko raziskovalno delo. Program zato spodbuja interdisciplinarno povezovanje in omogoča sodelovanje s priznanimi domačimi in tujimi strokovnjaki.

Doktorski program Računalništvo in informatika

Študij je namenjen poglabljanju znanja računalništva in informatike ter urjenju v veščinah raziskovalnega in razvojnega dela. Namenjen je študentom, ki nameravajo ostati v akademski sferi, in tistim, ki bodo opravljali zahtevnejša razvojno-inovacijska dela v računalniški industriji. Študij se v celoti izvaja v angleškem jeziku.

Interdisciplinarni doktorski program Bioznanosti

Študij se izvaja skupaj z Biotehniško fakulteto, Fakulteto za elektrotehniko in Fakulteto za strojništvo. Usmerjen je v usposabljanje za znanstveno delo na področju temeljnih in aplikativnih ved o življenju ter spodbuja oblikovanje novih znanstvenih področij, ki jih narekuje razvoj novih tehnologij in potreb v družbi.

Doctoral Study Programmes

3-year study, 2 study programmes

The third-cycle Bologna doctoral programme is primarily oriented towards training students for both independent and team research work. The programme thus encourages interdisciplinary synergies and facilitates collaboration with recognized Slovenian and foreign experts.

Doctoral Programme in Computer and Information Science

This programme is intended to deepen and broaden students' knowledge of computer and information science and their research and development skills. It is intended for those who intend to remain in academia and those who will be conducting top-tier R&D work in the computer industry. This programme is conducted entirely in English.

Interdisciplinary Doctoral Programme in Biosciences

This programme is held jointly by the Biotechnical Faculty, the Faculty of Electrical Engineering, and the Faculty of Mechanical Engineering. It is directed towards training for scientific work in fundamental and applied life sciences and encouraging the formation of new scientific disciplines which require the development of new technologies and societal needs.

"The doctoral programme is a great way to delve deeper into the complexities of computer science. It also gives you the opportunity to broaden your understanding of computer science and provides you with the tools and the knowledge required to become a leading expert in your specific area of interest."

– PhD student

Mednarodno sodelovanje

Mednarodne študijske izmenjave

Vse več študentov Fakultete za računalništvo in informatiko opravi del študijskih obveznosti na študijskih izmenjavah ali na praktičnih usposabljanjih v tujini. S tem študenti razširijo svoje računalniško znanje z vsebinami s priznanih tujih univerz ter pridobijo pomembne medkulturne izkušnje.

Izmenjave in štipendije zanje omogočajo številni mednarodni programi in bilateralne pogodbe, kot so Erasmus+, CEEPUS, Erasmus Mundus Basileus, EUROSA, AEN, MAUI, EMINTE, Slovenski štipendijski sklad EGP in NFM.

Dvojni študijski program

Študenti magistrskega programa Računalništvo in informatika se lahko vključijo v dvojni študijski program, ki ga Fakulteta za računalništvo in informatiko izvaja v sodelovanju s Tehniško univerzo v Gradcu. Študenti, ki opravijo vsaj en semester v Avstriji in izdelajo magistrsko delo z mentorjema obeh univerz, pridobijo diplomi obeh univerz.

Fakulteta za računalništvo in informatiko vzpostavlja podobne dvojne študijske programe še z drugimi tujimi univerzami s sorodnimi programi.

Mednarodno študijsko okolje

Za doseganje študijske in profesionalne odličnosti in razvoj novih idej je pomembno k sodelovanju pritegniti ljudi iz različnih kulturnih okolij. Fakulteta za računalništvo in informatiko ima zato namenjena posebna vpisna mesta, na katera vabi tuje študente, da se vpišejo in obogatijo študijski proces. Poleg meddržavnih sporazumov in bilateralnih pogodb štipendije, ki pokrijejo šolnino in druge življenjske stroške, v sodelovanju s fakulteto razpisujejo tudi nekatera računalniška podjetja.

Za tuje študente je vsako leto na voljo več predmetov v angleškem jeziku, obenem pa fakulteta gosti tuje predavatelje in za poučevanje zaposluje mednarodno priznane tuje strokovnjake.

International Cooperation

International Student Exchanges

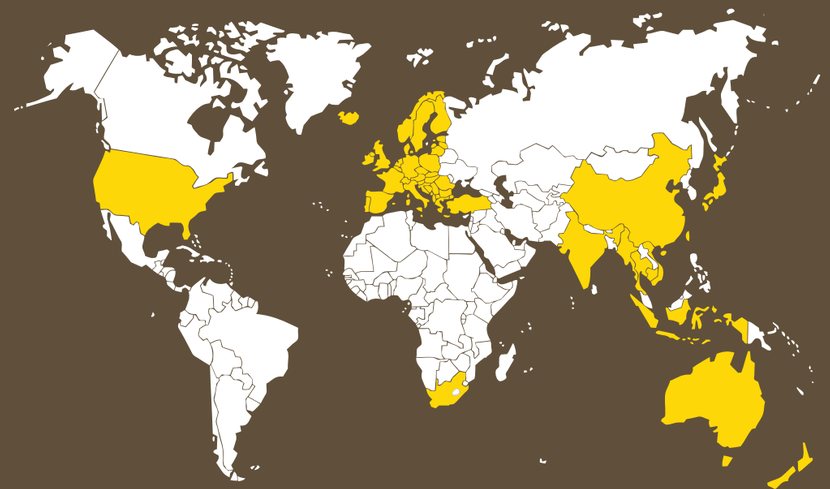
More and more students at the Faculty of Computer and Information Science are completing a portion of their obligations during student exchanges or internships abroad. Thus students expand their knowledge of computers with content provided by esteemed foreign universities and gain important international experience.

Exchanges and scholarships for these exchanges are made possible by several international programmes and bilateral agreements, such as Erasmus+, CEEPUS, Erasmus Mundus Basileus, EUROSA, AEN, MAUI, EMINTE, the Slovenian Scholarship Fund EGP, and NFM.

Double Programme

Students of the master's programme in computer and information science can also be combined in a double study programme offered by the Faculty of Computer and Information Science at the University of Ljubljana in collaboration with the Graz Technical University. Students who complete at least one semester in Austria and who complete their master's thesis with mentors from both universities are issued with a degree from both universities.

The Faculty of Computer and Information Science is establishing similar double programmes with other foreign universities which have similar programmes.



International Study Environment

Attracting people from various cultural backgrounds is important for achieving both academic and professional excellence and for the development of new ideas. The Faculty of Computer and Information Science thus reserves several enrolment places, to which it invites foreign students to matriculate and thereby improve the study process. In addition to international agreements and bilateral scholarship agreements, which cover both tuition and other living expenses, some computer firms also offer scholarships.

Every year foreign students have more and more subjects available in English, and the Faculty is hosting more foreign lecturers and employing internationally recognised experts as instructors.

Znanstveno-raziskovalno delo

Za raziskovalno delo na Fakulteti za računalništvo in informatiko je značilna velika raznolikost in izrazito interdisciplinarno povezovanje raziskovalnih področij. Intenzivno raziskujemo na področju umetne inteligence in v povezanih disciplinah, kot so strojno učenje, podatkovno rudarjenje in računalniški vid, ter se aplikativno povezujemo s področji bioinformatike, kognitivnega modeliranja in inteligentne robotike. Pomembno raziskovalno področje je pridobivanje in upravljanje podatkov, kot tudi integracija informacijskih sistemov. Z raziskavami naslavljamo še številna druga raziskovalna vprašanja z različnih področji računalništva in informatike.

Raziskovalne skupine uspešno izvajajo nacionalne in mednarodne projekte in programe, za katere zagotavljajo sredstva različni finančni mehanizmi EU, Javna agencija za raziskovalno dejavnost RS ter Ministrstvo za izobraževanje, znanost in šport RS. Mednarodne raziskave potekajo v sodelovanju z vrhunskimi univerzami in raziskovalnimi centri iz Evrope, ZDA in od drugod po svetu. V sodelovanju z gospodarstvom, ki že dolga leta priznava fakulteto za pomembnega partnerja pri razvoju, potekajo številne aplikativne raziskave.

Ugotovitve in rezultate raziskovalnega dela na fakulteti redno objavljajo ugledne mednarodne znanstvene publikacije, raziskovalci Fakultete za računalništvo in informatiko pa se kot vrhunski strokovnjaki udeležujemo znanstvenih konferenc in aktivno delujemo v mednarodnih strokovnih združenjih na vseh področjih računalništva in informatike.

Scientific Research Work

Great diversity and interdisciplinary approaches distinguish the research work of the Faculty of Computer and Information Science. We conduct intensive research on artificial intelligence and related fields, such as machine learning, data mining and computer vision, and applying this knowledge in the fields of bioinformatics, cognitive modelling and intelligent robotics. Data acquisition and management is an important area of research, as is the integration of systems. Our research addresses a number of other research questions from a wide range of fields concerning computer and information science.

Research groups are successful in conducting national and international projects and programmes, for which several EU financial mechanisms provide funds, along with the Slovenian Research Agency and the Ministry of Education, Science and Sport. International studies are conducted in collaboration with world-class universities and research centres in Europe, the US and elsewhere around the world. In collaboration with the private sector, which has considered the Faculty an important partner for development, the Faculty conducts numerous applicative studies in computer science.

The findings and results of research staff at the Faculty are regularly published in recognised international scientific publications, and its research staff – as world-class experts – participate in professional conferences and actively collaborate in international professional associations in all aspects of computer and information science.

Raziskovalni laboratoriji

Raziskovalno delo, ki je temelj računalniške in informacijske znanosti, poteka v 19 raziskovalnih laboratorijih. Ti zagotavljajo ustvarjalni skupni prostor za prenašanje znanj in pretok idej med uveljavljenimi raziskovalci in mladimi raziskovalci ter študenti, ki svoje raziskovalno področje šele iščejo.

Laboratorij za bioinformatiko

Laboratorij za bioinformatiko se ukvarja s podatkovno analitiko, strojnim učenjem in zlivanjem podatkov. Razvite tehnike uporablja predvsem v bioinformatiki (odtod tudi ime): raziskuje pristope umetne inteligence za iskanje odgovorov na vprašanja s področja sistemske biologije, funkcijske genomike in biomedicine. Laboratorij razvija tudi programsko opremo, kot je Orange (**http://orange.biolab.si**) za analizo in vizualizacijo podatkov ter dictyExpress (**http://dictyexpress.biolab.si**) za analizo genske ekspresije.

Laboratorij za umetne vizualne spoznavne sisteme

V laboratoriju se ukvarjamo s sistemi, ki uporabljajo vid za zaznavanje okolja in interakcijo z njim. Primeri takšnih sistemov so mobilni roboti, inteligentna okolja itd. Imamo izkušnje z vizualnim sledenjem predmetom, z detekcijo in kategorizacijo predmetov, z inkrementalnim učenjem na osnovi vizualne informacije, s sistemi za interakcijo med človekom in strojem. Te izkušnje smo osvojili v sodelovanju z mnogimi raziskovalnimi partnerji iz Evrope in ZDA v okviru dela na mnogih evropskih, nacionalnih ter industrijskih projektih.

Laboratorij za kognitivno modeliranje

V LKM raziskujemo področja podatkovnega rudarjenja, nevronskih mrež, umetne inteligence, analize velikih podatkovnih baz, analize podatkovnih tokov, večina raziskav pa zajema strojno učenje. Razvijamo in uporabljamo nove pristope in algoritme za modeliranje podatkov na različnih področjih. Sodelujemo z zdravniki, farmacevti, biologi ter strokovnjaki na področju športa. Naša raziskovalna podpodročja so modeliranje numeričnih, simbolnih, slikovnih, tekstovnih in prostorskih podatkov, medicinska diagnostika in prognostika, generiranje delno umetnih podatkov, itd.

Research laboratories

Research on computer and information science is conducted in 19 research laboratories. These provide a communal creative space for knowledge transfer and the flow of ideas between established researchers and students, who are still trying to find what they want to research.

Bioinformatics Laboratory

The Bioinformatics Laboratory carries out research in data mining, machine learning, and data fusion. We apply computational methods to solve practical problems in the area of bioinformatics (hence the lab's name) and to craft artificial intelligence approaches to answering questions in systems biology, functional genomics, and biomedicine. The laboratory also develops practical software tools, such as Orange (**http://orange.biolab.si**) for data mining and dictyExpress (**http://dictyexpress.biolab.si**) for gene expression analytics.

Visual Cognitive Systems Laboratory

The Visual Cognitive Systems Laboratory is involved in basic and applied research of visually enabled intelligent systems. We have extensive experience with visual object tracking, object detection and categorisation, incremental visual learning, as well as with systems for human-robot interactive learning and the development of computer vision solutions for smart mobile devices. Our experience has been accumulated in collaboration with a variety of research partners in a number of the EU, national and industry funded projects which address these research issues.

Laboratory for Cognitive Modelling

The laboratory carries out research in machine learning, neural networks, statistics, image, text and data mining. Recent research has been related to the generation of semi-artificial data, the analysis of big data with the MapReduce approach, evaluating the reliability of single models' predictions, text summarisation using archetypal analysis, web-user profiling, applying evolutionary computation to data mining, spatial data mining with multi-level directed graphs, bottom-up inductive logic programming, heuristic search methods in clickstream mining, and e-learning.

Laboratorij za podatkovne tehnologije

V laboratoriju se ukvarjamo z raziskavami na področju podatkovnih tehnologij, ki vključujejo zajem, integracijo, analizo in vizualizacijo podatkov. Posebne ekspertize imamo na področjih analize omrežij, zajema, iskanja in ekstrakcije podatkov s spleta, ipd. V sodelovanju z industrijskimi partnerji smo razvili številne prototipe in nove tehnologije. Pred leti smo ustanovili podjetje, ki je danes vodilno slovensko podjetje na področju detekcije goljufij v zavarovalništvu. Za svoje delo in prenos znanja v gospodarstvo smo prejeli več nagrad in priznanj.

Laboratorij za umetno inteligenco

Laboratorij izvaja raziskave iz naslednjih področij: strojno učenje (posebej argumentirano strojno učenje – ABML, induktivno logično programiranje, robotsko učenje), kvalitativno sklepanje z aplikacijami v robotiki (planiranje, učenje za planiranje), aplikacije strojnega učenja v medicini, inteligentni poučevalni sistemi (za programiranje in igranje iger, avtomatsko generiranje namigov, avtomatsko ocenjevanje težavnosti problemov za ljudi).

Laboratorij za integracijo informacijskih sistemov

V laboratoriju raziskujemo na področju integracije in interoperabilnosti aplikacij, naprav, informacijskih sistemov, arhitektur in platform. Osredotočamo se predvsem na programske platforme, kot so Java EE, HTML5, SOA, ukvarjamo pa se tudi z orkestracijo, upravljanjem API-jev, elastičnostjo, s PaaS, SaaS, IaaS, itd. Raziskujemo tehnologije, ki omogočajo izvedbo, spremljanje in optimizacijo poslovnih procesov. Vključeni smo v razvoj platform FI-WARE. Raziskave osredotočamo tudi na integracijo z napravami IoT in raziskavami, povezanimi z mobilnostjo rešitev.

Laboratorij za e-medije

Laboratorij se ukvarja z raziskavami na področjih varnosti, s poudarkom na kriptografskih protokolih, varnostnih arhitekturah in varnostjo v decentraliziranih komunikacijskih sistemih. Raziskovalne aktivnosti zajemajo še modeliranje človeškega dejavnika z razvojem rešitev, ki podpirajo sprejemanje odločitev pri upravljanju informacijskih sistemov in kritične infrastrukture. Patentirali smo kriptografske protokole. Rezultati naših raziskav vključujejo implementacijo upravljanja oskrbovalne verige v prehrambenem sektorju s pomočjo tehnologij RFID.

Laboratory for Data Technologies

Areas of interest include data acquisition, management, integration, analysis and visualisation, all within the framework of information system development, management and governance. Special interest is devoted to big data, real-time data management, the analysis of large networks, data streams, information extraction, etc. We work closely with industry partners in developing and testing new technologies and approaches.

Artificial Intelligence Laboratory

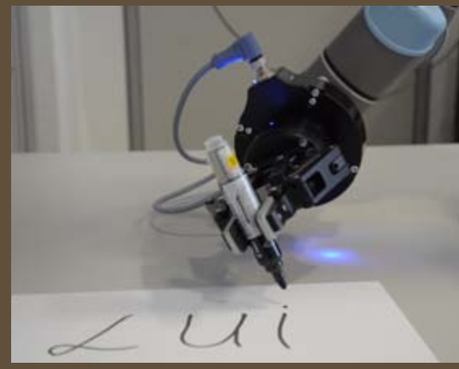
The laboratory carries out research in machine learning (particularly argument based machine learning, inductive logic programming, robot learning), qualitative reasoning with robotics applications, intelligent robotics (planning, learning for planning), machine learning in medicine with applications, and intelligent tutoring systems (ITS for programming and game playing, automated hint generation and the automatic assessment of the level of difficulty of problems for humans).

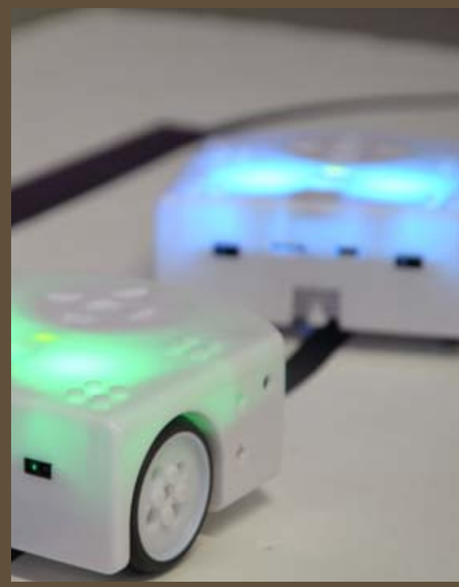
Laboratory for Integration of Information Systems

The laboratory conducts research in the field of the integration and interoperability of applications, devices, information systems, architectures and platforms. We have developed new schema-matching algorithms and integration methods. We focus on Java EE, HTML5, JavaScript, SOA/EDA/CEP and Cloud Computing (IaaS/PaaS/SaaS), including orchestration, API management and elasticity. We work on technologies for the execution, monitoring and optimisation of business processes and also on IoT integration and mobility issues.

Laboratory of e-Media

The laboratory focuses on advanced (lightweight) communications (e.g. the Internet of Things), security, privacy, e-business, and human factor modelling. Our research devotes particular attention to the analysis and design of advanced systems (from PKI to critical infrastructures), cryptographic protocols, advanced security and privacy analytics (e.g. big data methods for searching for precursory signals), and the quantitative treatment of the human factor. We have patented lightweight cryptographic protocols and developed practical (industry relevant) food supply chain management solutions based on RFIDs.





Laboratorij za matematične metode v računalništvu in informatiki

Raziskovalna področja laboratorija gredo v smeri zvezne in diskretne matematike. Raziskovalno delujemo na problemih komutativne in linearne algebre, nelinearnih dinamičnih sistemov, Brownovega gibanja in martingalov, algebraične topologije kot tudi računske topologije, uporabe topoloških metod v analizi podatkov in problemi numerične analize. Na diskretni strani matematičnega spektra raziskujemo predvsem na področju teorije grafov, natančneje nas zanimajo problemi iz strukturne in kromatične teorije grafov, tudi v povezavi z računsko geometrijo.

Laboratorij za informatiko

Glavne raziskovalne aktivnosti laboratorija vključujejo: (1) Metodologije razvoja programske opreme in evalvacijo poslovnih procesov: zasnovali smo sodobne in učinkovite metode za evalvacijo informacijskih sistemov, obvladovanje sprememb v informacijskem sistemu in obvladovanje odpora končnih uporabnikov pri IT projektih; (2) Strateško planiranje informatike: s tega področja imamo veliko izkušenj in referenc. (3) Kontekstno odvisne aplikacije: Razvili smo prototip kontekstnega strežnika in nameravamo nadaljevati z raziskavami na tem področju.

Laboratorij za računalniški vid

Raziskujemo na področjih računalniškega vida in multimedije, posebej nas zanima zajem, obdelava in interpretacija 3D slikovnih podatkov, razumevanje in interpretacija človeškega telesa na slikah, strojno učenje v računalniškem vidu. Zanimajo nas še: interaktivni slikovni informacijski vmesniki, 3D dokumentiranje v arheologiji in kulturni dediščini, 3D modeliranje, interpretacija medicinskih slik in slik v umetnostni zgodovini, forenzična analiza slik in videa, aplikacije za učenje znakovnega jezika gluhih in produkcija novomedijskih umetniških instalacij v sodelovanju z ALU UL.

Laboratorij za računalniške strukture in sisteme

Raziskave laboratorija so usmerjene v računske metode za modeliranje, simulacijo in analizo bioloških sistemov s procesnimi zmožnostmi, bioloških sistemov, ki odražajo skupinsko dinamiko, in kvantnih celičnih avtomatov (QCA). Laboratorij je tako sestavljen iz treh skupin, in sicer Skupine za računske metode v sistemski in sintezni biologiji, Skupine za skupinsko dinamiko in Skupine QCA. Rezultati našega dela so bili objavljeni v najodmevnejših znanstvenih revijah, kot sta na primer Nanotechnology in Animal Behaviour.

Laboratory for Mathematical Methods in Computer and Information Science

We are involved in research in various spheres of continuous and discrete mathematics. On the one hand our research topics include commutative algebra, linear algebra, nonlinear dynamical systems, Brownian motion, martingales, algebraic topology, computational topology, topological data analysis and scientific computing. On the discrete side of the mathematical spectrum, however, we deal with problems in graph theory, particular the structural and colouring problems of graphs, which are also connected with problems in computational geometry.

Information Systems Laboratory

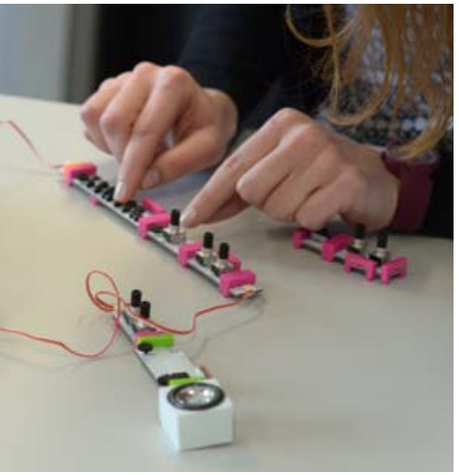
The focus of the research here includes software development methodologies and business process evaluation. We offer efficient approaches to the evaluation of information systems, specific information solutions and specific IT related processes. The approaches break down IT products or IT processes into key elements and evaluate them through a comprehensive set of criteria. We have excellent references in the areas of information system strategic planning and context aware applications, where we have developed a context engine prototype.

Computer Vision Laboratory

We research the capture, processing and interpretation of 3D visual data, machine learning in computer vision, and the use of images in computer-human interactions. We work in the following specific areas: interactive visual signage systems, 3D documentation in archaeology and cultural heritage, the interpretation of medical images and geology, the forensic analysis of images and video, as well as the production of computer games and new media art installations (in cooperation with the Academy of Fine Arts).

Computer Structures and Systems Laboratory

The laboratory is focused on computational methods for the modelling, simulation and analysis of three fundamentally different system families, biological systems that reflect coordinated behaviour and quantum-dot cellular automata (QCA) and those with information processing capabilities. The laboratory consists of three groups: the Computational Biology Group (computational methods); the Collective Behaviour Group; and the Quantum-Dot Cellular Automata group. Our results have been published in reputable journals such as Nanotechnology and Animal Behaviour.



Laboratorij za algoritme in podatkovne strukture

V laboratoriju izvajamo raziskave s področij aproksimacijskih in verjetnostnih algoritmov, algoritmov linearne algebre, kombinatorične optimizacije (npr. usmerjanje podatkov v grafih, porazdeljevanje virov v grafih, itd.), vzporednega računanja (npr. preslikavanje in razvrščanje algoritmov na rač. arhitekturah, uporaba večnitnosti, podatkovno-pretokovno računanje), prevajalnikov (npr. sintaksni analizatorji), razvoja operacijskih sistemov, grid računanja (npr. replikacija podatkov) ter nasploh izračunljivosti in računske zahtevnosti.

Laboratorij za vseprisotne sisteme

Osnovno raziskovalno področje laboratorija predstavlja delo s podatki v porazdeljenih okoljih, in sicer kako učinkovito hraniti več tera-bajtov podatkov in kako z njimi učinkovito rokovati. Porazdeljeno okolje samo po sebi omogoča vzporedno procesiranje, kar zahteva ustrezno porazdelitev podatkov in samega dela. Trenutno je naše raziskovanje usmerjeno na tri področja: rokovanje z nestrukturiranimi podatki, razpodvajanje podatkov in sprotno procesiranje podatkov. Delo laboratorija se širi tudi na področje poučevanja računalništva in informatike.

Laboratorij za tehnologijo programske opreme

V laboratoriju raziskujemo postopke za razvoj programske opreme in informacijskih sistemov s poudarkom na agilnih metodah, grafnih gramatikah in modelno vodenem razvoju. Predmet raziskav so: Agilni razvoj programske opreme (faktorji, ki vplivajo na uspešno uvedbo agilnih metod, itd.); Grafne gramatike; Modelno voden razvoj (gradnja platformno neodvisnih modelov spletnih aplikacij s postopki obratnega inženirstva, itd.); Analiza obiskov spletnih mest (Uporaba stohastičnih modelov za analizo obnašanja uporabnikov in razpletanje prepletenih sej z uporabo hevrističnih metod).

Laboratorij za računalniško grafiko in multimedije

V LGM se ukvarjamo z raziskavami in razvojem na področju medijskih tehnologij, komunikacije človek-računalnik in računalniške grafike. Osredotočeni smo predvsem na obdelavo zvočnih signalov in pridobivanje informacij iz glasbe (semantični opisi zvočnih posnetkov, indeksiranje, organizacija glasbenih arhivov), interaktivno 3D vizualizacijo in igre (vizualizacija v medicini) ter e-Izobraževanje. Imamo veliko izkušenj z razvojem namiznih, mobilnih in spletnih/oblačnih rešitev. Pri delu sodelujemo s partnerji pri številnih slovenskih, EU in industrijskih projektih.

Laboratory for Alghoritms and Data Structures

We conduct research in the areas of approximation and randomised algorithms, algorithms for problems in linear algebra (matrix multiplication), combinatorial optimisation (routing, problems on graphs, issues regarding the robustness of a facility's location), parallel computation (algorithm mapping and scheduling, algorithms in parallel systems, hardware supported multithreading, dataflow computing), compiler design (parsing methods, attribute grammars), operating system design, grid computing (data replication on data grids), as well as computability and complexity theory.

Laboratory for Ubiquitous Systems

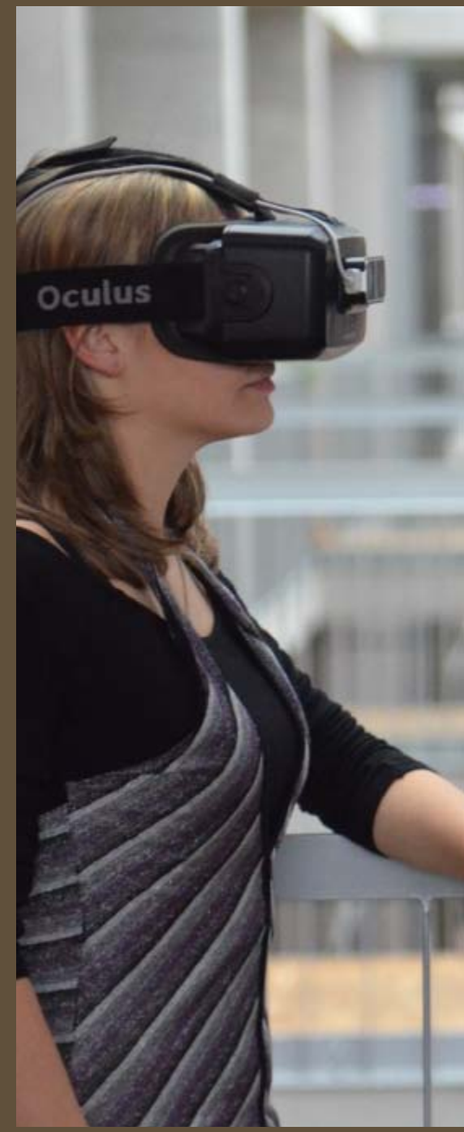
The prime area of research interest is efficient data handling in distributed pervasive environments, which store terabytes of data that present a challenge in at least two areas: the efficient storage and handling of the data. The distributed environment is inherently capable of parallel processing and requires a proper data and work distribution. Currently our research is concentrated on three areas: unstructured text handling, data deduplication and on-line streaming data processing. The work performed also overlaps with the area of Computer Science Education.

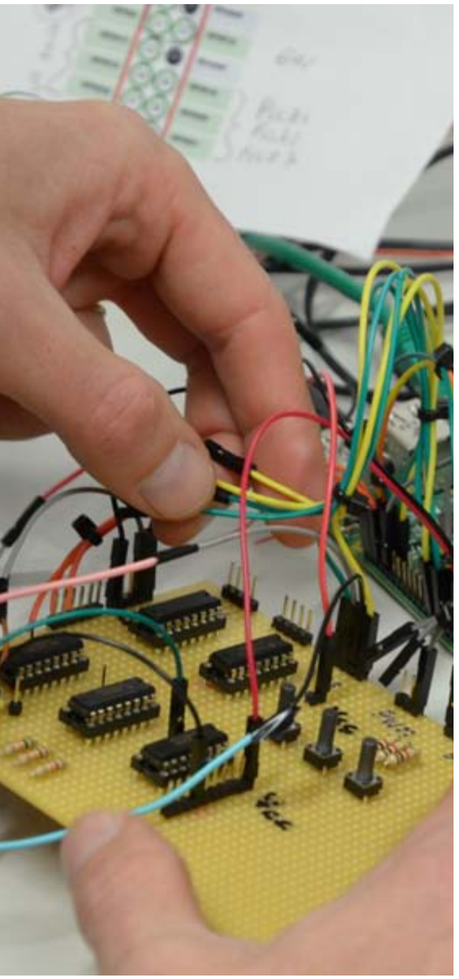
Software Engineering Laboratory

The laboratory is involved in teaching and research in the areas of software engineering and information systems, with an emphasis on Agile software development methods (i.e. factors affecting successful adoption, Agile project management, performance evaluation, the introduction of lean concepts, and similar), graph grammars and graph algorithms (parsing graph grammars, etc.), model driven development (reverse engineering, etc.), web data mining and user behaviour analysis (stochastic models for user behaviour analysis, separating interleaved web sessions, etc.)

Laboratory for Computer Graphics and Multimedia

The laboratory performs R&D in the fields of multimedia technologies, human-computer interaction and computer graphics. Our main focus is audio processing and music information retrieval (audio understanding, organisation of music archives), interactive 3D visualisation and games (medical imaging, gamification), and e-Learning (personalisation, learning for people with disabilities). We have extensive experience in developing software solutions for desktop, mobile and cloud platforms. We collaborate with partners in a number of national, EU and industrial projects.





Laboratorij za biomedicinske računalniške sisteme in oslikave

Laboratorij je vključen v temeljne raziskave povezane z biomedicinskimi signali in slikami. Glavni raziskovalni cilji so: razumevanje in opisovanje fizioloških fenomenov, grafično prikazovanje anatomskih detajlov in fizioloških funkcij in razmerij, vizualizacija biomedicinskih signalov in slik, razvoj standardiziranih podatkovnih baz z namenom študije fizioloških mehanizmov in vrednotenja zmogljivosti ter robustnosti razpoznavalnih tehnik, postavljanje kriterijev detekcije in razpoznavalnih tehnik za avtomatsko analizo bioelektričnih vzorcev, itd.

Laboratorij za kriptografijo in računalniško varnost

Laboratorij deluje na področju kriptografije in računalniške varnosti. Posvečamo se tudi diskretni matematiki, teoriji kodiranja in statističnemu načrtovanju. Ukvarjamo se predvsem z uporabno kriptografijo s poudarkom na kriptosistemih z javnimi ključi (kriptosistemi z eliptičnimi krivuljami), kriptografskih protokolih in njihovih implementacijah v omejenih okoljih (pametne kartice). Pokrivamo tudi področje diskretnih struktur (konkretno, algebraično kombinatoriko, končne geometrije in obsege, optimizacijo, ...) ter področje verjetnosti in statistike.

Laboratorij za adaptivne sisteme in paralelno procesiranje

Raziskovalno delo v laboratoriju je osredotočeno na razvoj adaptivnih algoritmov za potrebe mehkega računanja in podatkovnega rudarjenja in na načrtovanje računalniških sistemov. Smo aktivni pri načrtovanju hitrih in energijsko učinkovitih aritmetičnih vezij, pri programiranju časovno zahtevnih algoritmov na GPE in pri učinkoviti izrabi heterogenih sistemih. Razvijamo tudi pametna brezžična senzorska omrežja, ki jih poskušamo izboljšati s prepletanjem računalniških procesov. Rezultati našega dela so vključeni v številne izdelke po vsem svetu.

Laboratorij za računalniške komunikacije

Glavna raziskovalna področja so: komunikacijska omrežja in protokoli, oblačne arhitekture in storitve, varnost omrežij in oblakov, virtualizacija omrežij, infrastrukture in podatkovne shrambe, računalniško podprta učna okolja, itd. Na področju oblačne arhitekture smo raziskovali avtomatizacijo izgradnje kompleksnih virtualnih okolij (orkestracija). Raziskovali smo rabo SDN/NFV in uporabo teh konceptov v oblačnih okoljih ter integracijo protokolov za upravljanje z identitetami, avtentikacijo, avtorizacijo in oddaljeno administracijo v velika produkcijska okolja in v oblačne sisteme.

Laboratory for Biomedical Computer Systems and Imaging

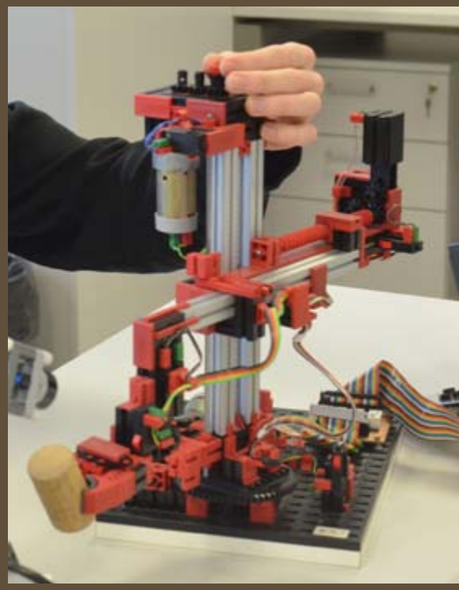
The laboratory conducts research in the field of biomedical signal and imaging data. Our research includes describing physiological phenomena, modelling physiologic relationships, graphically displaying anatomic details and physiologic functions, visualising biomedical signals, developing standardised databases, developing detection and recognition techniques, evaluating the performance of recognition techniques, analysing bioelectric patterns, and developing performance measures and protocols, biomedical information technologies and software.

Laboratory for Cryptography and Computer Security

We focus on cryptography and computer security, discrete mathematics, coding theory and statistical design. We have extensive experience in applied cryptography, especially public key cryptosystems (elliptic curve cryptosystems), cryptographic protocols (AKC) and their implementations in restricted environments, such as smart cards (including HSM and FPGA). We also study algebraic combinatorics (distance-regular graphs, association schemes, finite geometries, codes, finite fields and the like), probability and statistics.

Laboratory of Adaptive System and Parallel Processing

In our research we focus on problems where a lack of knowledge means solutions have not yet been found and the size of the problems demands efficient processing. We have experience in artificial neural networks, data clustering methods, information-theoretic modelling and reinforcement learning. We are also involved in digital logic design of low-power and high-speed arithmetic circuits, efficient processing on GPUs and other heterogeneous systems, and smart wireless sensor networks. The fruits of our labours have been incorporated into numerous products worldwide.



Computer Communications Laboratory

The research focus here is on communication networks and protocols, cloud architectures and services, cloud and network security, virtualisation, ICT sustainability, computer supported learning systems and the use of agile methodologies. We have researched the building automation (orchestration) of complex virtual environments, examined SDN and NFV and their use in cloud environments, and developed our own virtual cloud laboratory. Our latest project focuses on carrier-grade cloud solutions for large telco providers, including identity management, AAA and remote administration.

Sodelovanje z gospodarstvom

V okviru aplikativnih raziskovalnih projektov sodelujemo s številnimi podjetji ter tako skrbimo za prenos znanja v prakso in razvoj inovativnih in izdelkov in storitev. Spodbujamo tudi ustanavljanje start-up in spin-off podjetij. S podjetji sodelujemo na različne načine, od klasičnih projektov do sodelovanja v tehnoloških mrežah, tehnoloških platformah, centrih odličnosti, kompetenčnih centrih ipd.

Izkušnje za študente

Podjetja s fakulteto ne sodelujejo le na raziskovalnem, temveč tudi na študijskem področju. Študentom Fakultete za računalništvo in informatiko omogočajo opravljanje strokovne prakse, ki je sestavni del dodiplomskega visokošolskega strokovnega programa, razpisujejo štipendije, sodelujejo v programu usposabljanja mladih raziskovalcev iz gospodarstva ter na projektih Po kreativni poti do praktičnega znanja.

Podjetja v sodelovanju s fakulteto postavljajo študentom tudi programerske izzive, s katerimi iščejo inovativne rešitve za resnične probleme iz prakse. Študenti tako pridobijo izkušnje z aplikativnim raziskovalnim delom, vzpostavijo stik s podjetji – izraziti preboji na področju izdelkov, tekmovalnih ali ustvarjalnih dosežkov pa se jim lahko vrednotijo skozi splošne izbirne predmete, namenjene obštudijskim strokovnim dejavnostim.

Zaposljivost in strokovno izpopolnjevanje

Zaposljivost naših diplomantov je zelo visoka. Kadri z računalniško izobrazbo so zelo iskani in trendi kažejo na še večje potrebe po visoko kvalificiranih strokovnjakih, ki jih vzgajamo na Fakulteti za računalništvo in informatiko.

Hiter razvoj na področju visokih tehnologij zahteva stalno osvajanje novih dognanj, zato na fakulteti organiziramo predavanja, namenjena dodatnemu izobraževanju študentov in zaposlenih, na katerih gostujejo predvsem predavatelji iz gospodarstva.

Alumni klub

Društvo Alumni UL FRI združuje diplomante in učitelje fakultete ter stremi k osebnemu in strokovnemu razvoju diplomantov FRI tudi po študiju. Društvo spodbuja sodelovanje med poslovnimi partnerji, fakulteto in študenti, nudi pa tudi štipendiranje študentov. Z ohranjanjem medsebojnih odnosov in pripadnosti stroki društvo prispeva k razvoju akademske in gospodarske skupnosti.

Cooperation with Economy

We work with a number of companies on applied research products, thereby ensuring that know-how is transferred into practice and that innovative products and services are developed. We also encourage the foundation of start-ups and spinoff companies and work with companies in other ways, from traditional projects to collaboration in technological networks, technological platforms, centres of excellence, competence centres, etc.

Student Experience

Companies do not collaborate with the faculty only on research, but also in terms of study. They make it possible for Faculty of Computer and Information Science students to enter professional internships, which are an integral part of the undergraduate programme, they publish scholarship, collaborate in training young researchers from the private sector, and also participate in other projects to gain practical know-how.

Companies working with the Faculty pose students programming challenges which help them find innovative solutions for real problems from the field. Students thus gain experience with applicative research work and forge connections with companies – extraordinary accomplishments can be rewarded with extra credits in some elective courses.

Employment and Professional Training

The rate of employment among our graduates is extremely high. Professionals with knowledge of computer science are well sought-after on the market and trends indicate even greater need for highly qualified experts, whom we cultivate at the Faculty of Computer and Information Science.

The rapid development of high technology requires the constant mastery of new skills, which is why the Faculty organises lectures meant to supplement students' and employees' education, where lectures primarily from the private sector are hosted.

Alumni Club

The UL FRI Alumni Club joins Faculty graduates and professors, striving for the personal and professional development of FRI graduates even after study. The club encourages collaboration between professional partners, the Faculty, and students, and also offers student scholarships. By maintaining interpersonal relations and dedication to the profession the Club contributes to the development of the academic and entrepreneurial community.

Računalniška skupnost in družba

Računalniška pismenost

Računalniška pismenost je danes ena od ključnih kompetenc in nujen predpogoj za skoraj vsa profesionalna področja in demokratične procese v družbi nasploh. Fakulteta za računalništvo in informatiko se zaveda svoje odgovornosti pri širjenju računalniške pismenosti, zato za različne družbene in starostne skupine organizira javne dogodke in izobraževanja.

Poletne šole za otroke in mladino, delavnice programiranja za otroke iz socialno ogroženih družin, delavnice programiranja za dekleta in šolska tekmovanja iz računalništva in informatike ter tekmovanje iz računalniškega razmišljanja, ki jih organiziramo, pomenijo pomemben prispevek h krepitvi računalniške pismenosti že v najzgodnejših letih. Obenem na fakulteti redno izvajamo dodatna usposabljanja za učitelje, ki poučujejo računalniške vsebine na osnovnih in srednjih šolah.

Popularizacija računalništva

Računalništvo je veliko več kot deskanje po internetu, igranje igric in uporaba urejevalnikov besedil. Poznavanje računalniških sistemov in arhitekture ter sposobnost algoritmičnega mišljenja so vsaj toliko zabavne kot tudi koristne veščine.

Zato fakulteta sodeluje na tednu programiranja in različnih tehniških in računalniških dnevih, kjer s poljudnimi dejavnostmi, kot so programiranje robotov, reševanje logičnih ugank in programiranje mobilnih aplikacij, širšo javnost seznanjamo s širino računalniške vede.

K poglobljenemu reševanju računalniških problemov vse zainteresirane vabimo tudi z organizacijo in podporo tekmovanjem, kot so tekmovanje robotov Robo Liga FRI, mednarodno tehnološko tekmovanje ImagineCup, Univerzitetni programerski maraton, hackatoni ipd.

Računalniška skupnost

Za grajenje skupnosti študentov in zaposlenih na fakulteti niso dovolj le strokovne vsebine, zato podpiramo različne dejavnosti, ki omogočajo vzpostavljanje trdnih vezi z neformalnim druženjem. Na fakulteti deluje študentsko športno društvo, za zaposlene je organizirana rekreativna vadba, v pevskem zboru in v glasbeni skupini lahko najdejo svoje mesto umetniško navdahnjeni, na večerih družabnih iger je v ospredju druženje, posebno mesto pa tradicionalno zasedajo študijske ekskurzije.

Computer Science Community and Society

Computer Literacy

Today computer literacy is a key competence and is a necessary prerequisite for almost all professions and democratic decision making in society in general. The Faculty of Computer and Information Science realises its responsibility in spreading computer literacy and therefore organises public events and educational opportunities for various demographic groups.

We organise summer schools for both children and young adults, programming workshops for socially disadvantaged children, workshops for young girls, school competitions in computer and information science, and competitions in computer logic, which all contribute significantly to establishing a firm foundation in computer literacy at a young age. At the same time the Faculty conducts additional training for teachers of computer science in primary and secondary schools.

Popularisation of Computer Science

Computer science is much more than just surfing the web, playing games and using word processing programs. Learning about computer systems and architecture and skills in algorithmic rationalising are as entertaining as they are educational.

The Faculty accordingly involves itself with European Code Week and various events on technical subjects and computer science, where they hold activities which engage the public, such as programming robots, solving logical challenges, and programming mobile apps to show the public the depth and breadth of computer science.

Interested persons are invited to dive deeper into problem-solving in computer science at competitions we organise and support, such as the Robo Liga Fri competition, the international ImagineCup technological competition, the University programming marathon, hackathons, etc.

Computer Science Community

Expertise on its own is not enough to build a community of students and employees at the Faculty, which is why we support other informal events to help establish and solidify a network of contacts. There is a student sports association at the Faculty, employees have access to organised recreational sports, those with an artistic flair sing in the Faculty choir, evenings are spent socialising over games, and our student excursions have become a special tradition.

Slovenija

Slovenija leži v osrčju Evrope in z 20.273 km² površine spada med manjše evropske države. Med dvema milijonoma prebivalcev so večinoma Slovenci, priznani pa sta tudi italijanska in madžarska narodna manjšina. Uradni jezik je slovenščina. Na območjih, kjer živijo poleg Slovencev tudi pripadniki italijanske oz. madžarske manjšine, je poleg slovenščine uradni jezik tudi italijanski oz. madžarski. Država je od leta 2004 članica Evropske unije, uradno plačilno sredstvo je evro.

Kljub majhni velikosti države je pokrajina zelo raznolika, saj sega vse od obale Sredozemskega morja do visokih Alp in rodovitne Panonske nižine, večji del ozemlja pa močno zaznamujejo kraški teren, številni vodni viri in predvsem obširni gozdovi. Slovenija je med najbolj gozdnatimi državami v Evropi, kar daje zatočišče tudi številnim divjim živalim, kot so medved, volk in ris, ki jih v številnih državah ni več.

Naravne danosti, prijazni prebivalci, mirno in varno okolje privabijo vsako leto več obiskovalcev iz tujine. Življenje v Sloveniji je v primerjavi z drugimi zahodnimi državami relativno ugodno, zato je kakovost bivanja visoka.

Ljubljana

Ljubljana je glavno mesto Slovenije. Z nekaj več kot 300.000 prebivalci se uvršča med srednje velika evropska mesta, premore vse, kar imajo večje prestolnice, a vseeno daje občutek manjšega kraja, kjer so vse stvari na dosegu roke. V mestu ima sedež večina državnih institucij, najpomembnejših finančnih ustanov in gospodarskih družb ter seveda največja slovenska univerza.

Študenti predstavljajo več kot sedmino populacije, kar daje mestu mladosten in živahen značaj. Številne kulturne dogodke, ki se v mestu odvijajo čez celo leto, zaznamujeta tako bogata tradicija kot tudi moderna ustvarjalnost. Številni obiskovalci Ljubljane se čez dan navdušujejo nad kavarnami ob reki Ljubljanici, ki se vije skozi mesto, ponoči pa nad prijetnim nočnim utripom.

Slikovito mestno jedro s srednjeveškim srcem, nad katerim bdi Ljubljanski grad, krasi veličastna baročna in secesijska arhitektura, poseben pečat pa je ureditvi mesta dal v Ljubljani rojeni arhitekt Jože Plečnik. Poseben čar mesta pa so številne zelene površine na čelu s parkom Tivoli, kar naredi Ljubljano eno najbolj zelenih mest v Evropi.

Photo: D. Wedam

Slovenia

Slovenia lies in the heart of Europe, its 20,273 km² of land ranking it among the smallest European states. Ethnic Slovenes make up the majority of the 2 million inhabitants, while there are also significant Hungarian and Italian minorities. The country's official language is Slovenian. Since 2004, Slovenia has been a full member of the EU and uses the euro as currency.

Despite its small size, the landscape is quite diverse, from the Mediterranean coast to towering alps and the fertile Pannonian plane. A large part of the country is also marked by karstic soil, countless sources of water, and nearly endless forests. Slovenia is among the European countries with the highest percentage of forest, providing a safe haven for a whole zoo of wildlife, including bears, wolves, and lynx, which have disappeared from many other countries.

Natural endowments, world-renowned citizens, and a safe and peaceful environment bring a number of tourists to the country each year. Life in Slovenia, in comparison to other western countries, is fairly comfortable, and the quality of life is appropriately high.

Ljubljana

Ljubljana is the capital of Slovenia and no visit to Slovenia is complete without a visit to this historic city. With a population just topping 300,000, Ljubljana ranks among medium-sized European cities. It offers everything that larger capitals do, while still giving the cosy feeling of a town, where everything is at your reach. Many of the state institutions are located in the city, as are the most important financial institutions and many major private companies, and of course the largest university in Slovenia.

Students make up a good seventh of the population, giving the city a youthful and lively atmosphere. Numerous cultural events held in the city throughout the year mark its rich tradition, as well as its modern creativeness. By day, the many tourists flocking to the capital are delighted by the cafes and bars along the Ljubljanica river, which winds its way through the heart of the city, while things heat up a bit at night.

The stunning city centre, with its medieval core sitting under Ljubljana Castle, is adorned by Baroque and Secession architecture, while one of Ljubljana's famous sons, the architect Jože Plečnik, put his indelible mark on the capital. The city's special charm is also to be found in its seemingly endless green spaces, especially in Tivoli Park, making Ljubljana one of the greenest cities in Europe.

Design: Agnieszka Rovšnik
Print: Grafex d.o.o.
Ljubljana 2015

Operation is partially funded by the European Union through the European Social Fund and the Ministry of Education, Science and Sport. The operation is performed under the Operational Programme for Human Resource Development for the period 2007-2013, development priority 3: “Human resource development and lifelong learning” policy priority 3.3 “Quality, competitiveness and responsiveness of higher education”.

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