



FACULTY
OF APPLIED SCIENCES
UNIVERSITY
OF WEST BOHEMIA

SCHOOL OF COMPUTING

Department of Computer Science and Engineering
NTIS Programme "Advanced Computer and Information Systems"

2018

Faculty of Applied Sciences
Univerzitní 8
306 14 Plzeň, Czech Republic
www.kiv.zcu.cz



PROFILE

Basic Facts

- Founded in 1988, origins from 1960s
- 5 full professors, 71 staff members (incl. 27 NTIS researchers), 16 full-time PhD students, 388 bachelor and master students, 17 international
- Total budget: EUR 2.1 million (grants: EUR 1.0 million)

Membership and Partners

- International Organizations: Informatics Europe, ACM, ISO/IEC JTC1 SC 32 Standards for Data management and Interchange, IFIP TC2 & TC 5, International Neuroinformatics Coordinating Facility (INCF), ARTEMIS, COST, INSTICC
- National Organizations: GRIFO, Platform of Information Technologies, The Commission of the Research, Development and Innovation Council of the Government, GACR Evaluation Panel for Computer Science, TACR, National Accreditation Bureau for Higher Education (NAB)
- Industrial partners: Aimtec, AŽD Praha, CCA Group, University hospital Plzeň, Palaxo Development, Sensorik-Bayern, Unicorn, etc.

Education

- Bachelor study branches: Computer Science, Computer Engineering, Information Systems
- Master study branches: Computer Engineering and Networks, Computer Graphics, Information Systems, Medical Informatics, Software Engineering
- Erasmus links: MDH Sweden, UPSAM Spain, UIB Spain, ULPGC Spain, INSA France, QUB United Kingdom, OTH Germany, HFU Germany, HAMK Finland, etc.

Research Areas

- Medical Informatics and Neuroinformatics (J. Kohout, J. Klečková, R. Mouček, T. Koutný)
- Computer Engineering and Networks (V. Vavříčka, J. Šafařík)
- Computer Graphics, Data Visualisation (I. Kolingerová, V. Skala, L. Váša)
- Natural Language Processing, Data Mining (P. Král, K. Ježek)
- Software Engineering and Reliability (P. Brada, P. Herout)

SELECTED RESULTS

Journal publications

- More than 15 in total

Head of Department

doc. Ing. Přemysl Brada, MSc., Ph.D.

Deputy heads

Ing. Roman Mouček, Ph.D. (Education)
prof. Dr. Ing. Ivana Kolingerová (Research)

Administration Manager

Ing. Jana Krutišová

- CERISARA, C., KRÁL, P., LENC, L. On the Effects of Using word2vec Representations in Neural Networks for Dialogue Act Recognition. In Computer Speech and Language.
- DE FALCO, I., KOUTNÝ, T., ET AL. Genetic Programming-based induction of a glucose-dynamics model for telemedicine. In Journal of Network and Computer Applications.
- JURČÍK, A., MAŇÁK, M., ET AL. CAVER Analyst 2.0: Analysis and Visualization of Channels and Tunnels in Protein Structures and Molecular Dynamics Trajectories. In Bioinformatics.
- VÁŠA, L., DVORÁK, J. Error propagation control in Laplacian mesh compression. In Computer Graphics Forum.
- ŠMOLÍK, M., SKALA, V. Large scattered data interpolation with radial basis functions and space subdivision. In Integrated Computer-Aided Engineering.
- VAREKA, L., MAUTNER, P. Modifications of unsupervised neural networks for single trial P300 detection. In Neural Network World.
- BOKR, J. Causality and Finite Automaton. In Elektrověst.

Conference publications

- More than 40 contributions on national and international refereed conferences

Research Grant Projects

- MediaGist – Summarisation and Sentiment Analysis for Evolving Multilingual Media Content, EU FP7-CIG-630786, 2014–2018, EUR 100.000, J. Steinberger
- Brainwave driven digital Assistance System for motor-Impaired people, SFEU EUROPEAN COMMISSION, 85, 2016–2019, EUR 231.046, R. Mouček
- Access to a Linguistically Structured Database of Enquiries from the Language Consulting Centre, NAKI II MKČR, DG16P02B009, 2016–2019, EUR 111.200, M. Dostal
- Methods of Identification and Visualization of Tunnels for Flexible Ligands in Dynamic Proteins, GA ČR, 17-07690S, 2017–2019, EUR 77.244, I. Kolingerová
- Meshless methods for large scattered spatio-temporal vector data visualization, GA ČR, 17-05534S, 2017–2019, EUR 101.760, V. Skala
- AFarCloud - Aggregate Farming in the Cloud (2), EC-H2020, 783221, 2018 – 2021, EUR 131.320, P. Brada

- Modern Access to Historical Sources, SFEU, 211, 2018 – 2021, EUR 334.031, P. Král
- Multimodal identification, authorization and verification of persons, OP PIK MPO, 0012507, 2018 – 2020, EUR 646.250, M. Konopík

Industrial Projects

- Research, development and consultation of machine learning based automatic document redaction and cloud deployment, Client: Palaxo Development, s.r.o., 2018, M. Konopík
- Research and development in the field of automated accounting, Client: Trivi, a.s., 2018, P. Král
- Acquisition of ICT and SW equipment for measuring and predicting of crop growth conditions, Client: Český Chřest, s.r.o., 2018, P. Král
- 3D model simplification that reflects important surfaces, Client: PDM Technology Europe, s.r.o., 2018, L. Váša
- Cybersecurity insurance for railway – optimization of code weight distribution computation, Client: AŽD Praha, s.r.o., 2018, T. Koutný
- Analysis of CSN EN 50128 compliance for the GA RBC project, Client: AŽD Praha, s.r.o., 2018, P. Herout
- Diffraction structures, Client: DEVINN, s.r.o., 2018, P. Lobaz

HIGHLIGHTS

Events

- Programming contest PilsProg for high school students, March 24, Pilsen
- Catalysts Coding Contest – spring and autumn challenge, April 27 and November 16, Pilsen
- 26th International Conference on Computer Graphics, Visualization and Computer Vision (WSCG 2018), May 28 – June 1, Pilsen
- Computer Architecture & Diagnostics Conference (PAD 2018), Sept. 5-7, Churáňov
- 21st International Conference on Text, Speech and Dialogue (TSD 2018), co-organizer, Sept. 11–14, Brno
- CodeWeek, October 18, Pilsen
- Unicorn day, November 20, Pilsen

Awards

- IT Student Project of the Year (IT SPY 2018) – 2nd place (L. Hruďa)
- Medal of Wolfgang Kempelen, FIIT STU Bratislava (J. Šafařík)

Heads of Sections

doc. Ing. Přemysl Brada, MSc., Ph.D.
(Software Engineering and Information Systems)
doc. Ing. Josef Kohout, Ph.D.
(Medical Informatics)
prof. Dr. Ing. Ivana Kolingerová
(Computer Graphics and Multimedia Systems)
doc. Ing. Vlastimil Vavříčka, CSc.
(Computer Systems and Networking)

Full Professors

prof. Ing. Karel Ježek, CSc.
prof. Dr. Ing. Ivana Kolingerová
prof. Ing. Václav Matoušek, CSc.
prof. Ing. Václav Skala, CSc.
prof. Ing. Jiří Šafařík, CSc.

Associate Professors

doc. Ing. Josef Bokr, CSc.
doc. Ing. Přemysl Brada, MSc., Ph.D.

doc. Ing. Dalibor Fiala, Ph.D.
doc. Ing. Pavel Herout, Ph.D.
doc. Dr. Ing. Jana Klečková
doc. Ing. Josef Kohout, Ph.D.
doc. Ing. Tomáš Koutný, Ph.D.
doc. Ing. Pavel Král, Ph.D.
doc. Ing. Stanislav Racek, CSc.
doc. Ing. Josef Steinberger, Ph.D.
doc. Ing. Libor Váša, Ph.D.
doc. Ing. Vlastimil Vavříčka, CSc.