

Natural Language Processing Research Group

/ Department of Computer Graphics and Multimedia
/ Faculty of Information Technology / Brno University of Technology

RESEARCH GROUP CONTACT >>

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THEMATIC RESEARCH FOCUS ↘

RESEARCH AREA

Natural language processing

EXCELLENCE

- » Knowledge mining from very large semi-structured data
- » Cognitive ergonomics and human-machine interaction
- » Multimedia semantics

MISSION

As a part of the human-machine interaction group that combines excellence in speech processing, image and video understanding and knowledge systems, we aim at strengthening our position in international research. We strive to participate in the best projects and to provide PhD students and young researchers opportunities to cooperate with leading figures in our area of interest.

DEVELOPED TECHNOLOGIES ↘

CONTENT OF RESEARCH

- » Knowledge extraction components for various domains
- » Social media streams analysers
- » Semantic annotation technology for text and multimedia

MAIN CAPABILITIES

Research and development of context-aware knowledge-based systems that employ semantic web technologies and/or multimedia processing to overcome limits of today's solutions.

FIELDS OF RESEARCH RESULTS APPLICATION

- » Knowledge management in large and medium-sized enterprises
- » Technology-enhanced learning systems based on advanced content processing
- » Open government and public service projects pursuing the topic of open data

ALUMNI PROFILE

In the course of their Ph.D. studies, our graduates come to know state-of-the-art natural language processing techniques as well as general machine-learning methods. They also learn from cooperating with key centres dealing with knowledge technologies, meet colleagues and establish contacts in the area.

NUMBER OF RESEARCH POSITIONS ↘

SENIOR RESEARCH STAFF

4

JUNIOR RESEARCH POSITIONS (INCL. PH.D. STUDENTS)

6



BUDGET ↘

TOTAL (MIL. CZK/ MIL. EUR)

12 / 0.48

PART OF THE TOTAL BUDGET FROM PRIVATE RESOURCES (%)

0

PART OF THE TOTAL BUDGET FROM FOREIGN RESOURCES (%)

80

MAIN PROJECTS ↘

2011–2013: DECIPHER-Digital Environment for Cultural Interfaces; Promoting Heritage, Education and Research (FP7 ICT 270001, financed by the European Commission)

2010–2013: R3-COP-Robust & Safe Mobile Co-operative Autonomous Systems (ARTEMIS JU 100233, financed by the ARTEMIS Joint Undertaking)

2010–2012: TA2-Together Anywhere, Together Anytime (FP7 ICT 214793, financed by the European Commission)

2010–2012: M-Eco-Medical Ecosystem-Personalized Event-based Surveillance (FP7 ICT 247829, financed by the European Commission)

2010–2013: eSonia-Embedded Service Oriented Monitoring, Diagnostics and Control: Towards the Asset-aware and Self-Recovery Factory (ARTEMIS JU 100223, financed by the ARTEMIS Joint Undertaking)

ACHIEVEMENTS ↘

- » Knowledge extraction modules used in the intranet knowledge sharing system in Sun/Oracle
- » Social media analysis module which proved to provide faster epidemiology-relevant event detection than traditional indicator-based surveillance (early detection of Norovirus outbreak at Carl von Ossietzky Universität Oldenburg in Lower Saxony)

MAIN COLLABORATING PARTNERS ↘

COLLABORATION WITH ACADEMIC PARTNERS

- » Dublin Institute of Technology (Dublin, IE)
- » University of Sheffield (Sheffield, GB)
- » Open University (Milton, GB)
- » Salzburg Research (Salzburg, AT)
- » Austrian Institute of Technology (Vienna, AT)
- » Universität Koblenz-Landau (Koblenz, DE)
- » Gottfried Wilhelm Leibniz Universität Hannover, L3S Research Center (Hannover, DE)

- » IDIAP Research Institute (Martigny, CH)
- » CWI – Centrum voor Wiskunde en Informatica (Amsterdam, NL)
- » National Technical University of Athens (Athens, GR)
- » Centre for Research and Technology HELLAS (Thessaloniki, GR)
- » Aalborg University (Aalborg, DK)
- » Tampere University of Technology (Tampere, FI)

COLLABORATION WITH COMPANIES

- » British Telecom (London, GB)
- » Alcatel-Lucent Bell (Antwerp, BE)
- » Yahoo! (Barcelona, ES)
- » Hellenic Aerospace Industry (Athens, GR)
- » Vodafone (Athens, GR)
- » Telefónica (Madrid, ES)
- » Oracle (Prague, CZ)
- » Logica (Aalborg, DK)
- » Thales Italia (IT)
- » Siemens (Munich, DE)
- » Fraunhofer (Nürnberg, DE)
- » TNO (Amsterdam, NL)
- » Philips (Eindhoven, NL)
- » Hermia (Tampere, FI)
- » UNIS (Brno, CZ)
- » Honeywell (Brno, CZ)

EXPECTATIONS ↘

OFFERS

- » Partnership in European projects
- » Design and development of modern knowledge-sharing platforms
- » Licences of information extraction modules

REQUIREMENTS

- » Industrial partners providing challenging use-cases in knowledge-based technologies
- » Academic partners with a track in international research projects