



IDSA research group @ FIIT STU

Intelligent Data and Systems with Applications

<https://idsa.fiit.stuba.sk/>

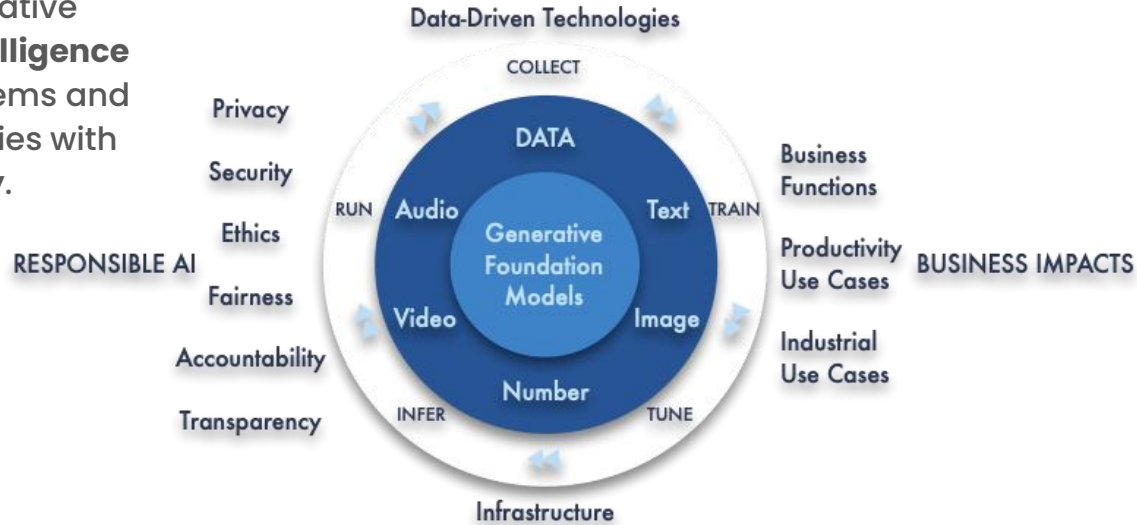
2025-09-25

Research Focus

The IDSA research group focuses on innovative **data intelligence** and **computational intelligence** solutions towards building intelligent systems and applications using data-driven technologies with respect to **data privacy** and **data security**.

Research Domains

- AI-Assisted Systems, AIOps
- Natural Language Processing (NLP)
- Data Privacy and Data Security
- Human-Computer Interaction (HCI)
- eHealth Informatics, Telemedicine
- NeuroEvolution and Robotics
- Intelligence in Education and Engineering





Members

doc. Giang NGUYEN

doc. Ján LANG

Engineering

doc. Fedor LEHOCKI

Robotics

Dr. Eduard KURIC

Dr. Martin KOMÁK

Dr. Juraj VINCÚR

IDSA Research Interests

ML/DL – NLP – RecSys – Privacy – Security

Intelligence in Education and Software

eHealth – IoT – Remote Sensing – Social

Human-Computer Interaction (HCI) – ML

AI – NeuroEvolution

Virtual Reality – Augmented Reality – HCI

PhD students

1. Ing. Oliver Udvardi
2. Ing. Matúš Krajčovič
3. Ing. Anetta Langová
4. Ing. Matúš Baloga
5. Ing. Jakub Abrahoim
6. Ing. Alexandra Skyvová

Dissertation successfully defended in 08.2025

1. Ing. Oleksandr Lytvyn, PhD.
2. Ing. Viktor Matovič, PhD.
3. Ing. Jakub Perdek, PhD.



Projects

- Sustainable Healthcare with Digital Health Data Competence (SUSA), 2025-2028
- Smart Data Pipelines for the Cognitive Compute Continuum (SPICE), 2025-2027
- Building Regional Innovation Ecosystems (BRIE), 2025-2027
- [Artificial Intelligence for Legal Professions \(AILE\)](#), 2024-2026
- Evolving Architectural Knowledge in the Edge-to-Cloud Continuum, 2024-2028
- Model-based explication support for personalized education, 2023-2026
- [Education Content Engineering Hub \(ECEH\)](#), EEA and Norway Grants, 2022-2024

Laboratoriums

- | | | |
|----------------------------|-------------------------|------------|
| • Engelbert's Lab | - lab room 3.29 a, b, c | (3. floor) |
| • e-Health Informatics Lab | - lab room 3.29 d | (3. floor) |
| • 3D Lab and Cloud | - lab room 3.38 | (3. floor) |
| • IDSA GPU/HPC Lab | - lab room 4.43 | (4. floor) |
| • Simon's Lab | - lab room 1.26 | |
| (1. floor) | | |

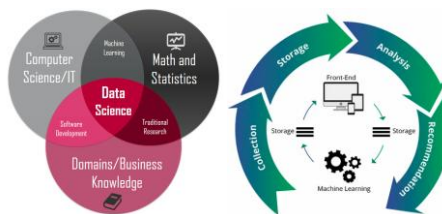


Publications (selected, Open Access, top ranking)

- [Machine Learning Operations Landscape: Platforms and Tools.](#)
Artificial Intelligence Review, Q1-decile, 10.1007/s10462-025-11164-3, Springer Nature, 2025
- [Landscape of Machine Learning Evolution: Privacy-Preserving Federated Learning Frameworks and Tools.](#)
Artificial Intelligence Review, Q1-decile, DOI 10.1007/s10462-024-11036-2, Springer Nature, 2025
- [Democratizing eye-tracking? Appearance-based gaze estimation with improved attention branch.](#)
Engineering Applications of Artificial Intelligence, Q1-decile, DOI 10.1016/j.engappai.2025.110494, Elsevier, 2025
- [Unmoderated Usability Studies Evolved: Can GPT Ask Useful Follow-up Questions?](#)
International Journal of Human-Computer Interaction, Q1, 10.1080/10447318.2024.2427978, Taylor & Francis, 2025
- [Secure Federated Learning for Multi-Party Network Monitoring.](#)
IEEE Access, Q1, DOI 10.1109/ACCESS.2024.3486810, IEEE, 2024
- [Network security AIOps for online stream data monitoring](#)
Neural Computing and Applications, Q1, DOI 10.1007/s00521-024-09863-z, Springer Nature, 2024
- [Is mouse dynamics information credible for user behavior research? An empirical investigation](#)
Computer Standards & Interfaces, Q1, DOI 10.1016/j.csi.2024.103849, Elsevier, 2024
- [Collaborative software design and modeling in virtual reality](#)
Information and Software Technology, Q1, DOI 10.1016/j.infsof.2023.107369, Elsevier, 2024
- [Effect of Low-Level Interaction Data in Repeat Purchase Prediction Task](#)
International Journal of Human-Computer Interaction, Q1, DOI 10.1080/10447318.2023.2175973, Taylor & Francis, 2024
- [Cognitive abilities and visual complexity impact first impressions in five-second testing](#)



Giang NGUYEN



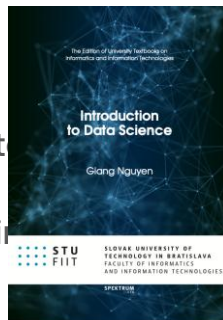
Associate Professor

Intelligentná analýza údajov (IAU_B)

Introduction to Data Science

Science

Machine Learning, Deep Learning
Responsible AI



Intelligent System Applications (ISA_I)

Neural Recommendation Systems

Systems

GenAI and Applied ML
Preserving ML

Foundations of
Privacy



Supervisor for

Bachelor Thesis

Master Thesis

Researcher Profile

Responsible AI and creative solving of scientific and technological problems in the research fields

Expertise: Machine Learning, Deep Learning, Applied Soft Computing, Privacy and Security, Natural Language Processing, IT/HPC/PDC

- ORCID profile [0000-0002-6769-0195](https://orcid.org/0000-0002-6769-0195)
- [Google Scholar profile](#)



FIIT STU office 3.11 giang.nguyen@stuba.sk



Ján LANG

Associate Professor

- VISS_I – Research in Intelligent Software Systems
- MIP_B – Engineering Methods
- Supervisor for Bachelor and Master Thesis
- Supervisor for PhD study

Researcher Profile

My research interests involve object-oriented analysis and design, software technology, complex event processing, educational content specification and modelling, learning management and content management. I explore extending and adapting techniques of software development to other areas with a particular interest in education.





Norway
grants



Project number: BIN SGS02_2021_004

Educational Content Engineering Hub (ECEH)

Together let us make things better

Beneficiary



Partners









FIIT STU office 3.07 jan.lang@stuba.sk

Fedor LEHOCKI

Associate Professor

Software Architecture (AS_I)

Expressing software architecture in

UML

Microservices and containers

Software Architecture for Big Data &

Cloud

Principles of Information Systems (PIS_B)

Modeling and management of
business processes, process mining
BPMN language

Supervisor for Bachelor,
Thesis, PhD study

Master

Researcher Profile

Telemedicine (development of digital tools for
mental health, emotion management, non-
communicable diseases)

Social Robotics (human-robot interaction, use
of robots as assistive companions for elderly)





Eduard KURIC

Associate Professor

Introduction to Web Technologies (WTECH_B)

Web Architectures, Core Technologies and Concepts, Responsive Web Design, Web Frameworks

Project: online shopping application

Development of Progressive Web Applications (VPWA_B)

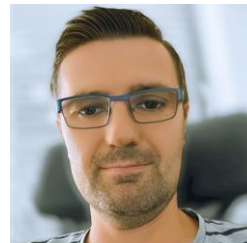
Reactive Web Frameworks, Single-Page Application, Core Concepts

Project: real-time communication application (Slack-like app)

Supervisor for Bachelor, Master Thesis

Consultant for PhD study

Researcher Profile



Expertise:

- Human-Computer Interaction
- User Modeling
- Human-Centered AI (machine/deep learning)
- User Experience (UX)

Founder of the successful startup



- ORCID profile [0000-0002-7371-5512](https://orcid.org/0000-0002-7371-5512)
- Scopus Author ID [54893849100](https://orcid.org/54893849100)
- Web of Science Researcher ID [IYT-1899-2023](https://orcid.org/IYT-1899-2023)

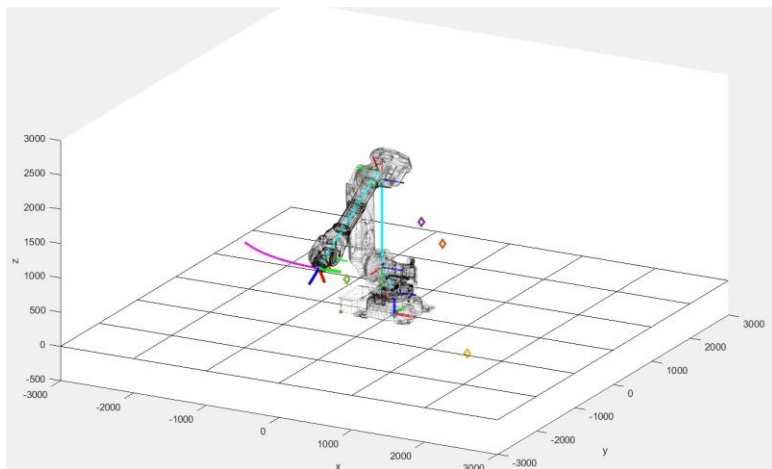
FIIT STU office 3.17 eduard.kuric@stuba.sk



Martin KOMÁK

Assistant Professor

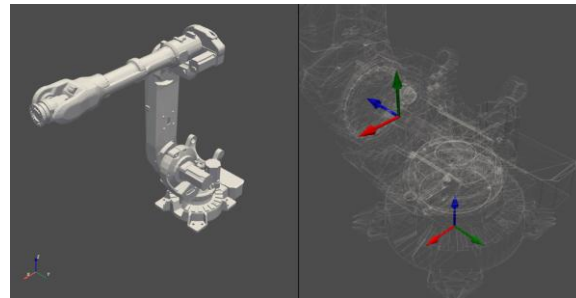
- Artificial Intelligence (UI_B)
- Data Structures and Algorithms (DSA_B)
- AI instructor for the [FIIT STU Academy](#)
- Supervisor for Bachelor Thesis, Master Thesis



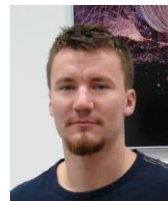
Researcher Profile

My research topics is **Artificial Intelligence (AI)** and industrial robotics with a focus on the deployment of AI in engineering applications, as well as on popularizing the use of AI in industry.

Hobbies: Facebook tourist group leader



FIIT STU office 3.14 martin.komak@stuba.sk



Juraj VINCÚR

Assistant Professor

- Software Modeling (MSOFT_B)
- Software Languages (SJ_I)
- Theoretical Foundations of Information Sciences (TZIV_B)
- Supervisor for Bachelor and Master Thesis

Researcher Profile

- Supervisor of [3D Lab](#) and Cloud
- Specializing in applications of virtual reality (VR) and augmented reality (AR) in software engineering, education, and assistive technology

