europass

Mihai Negru

Nationality: Romanian **Date of birth:** 24/07/1982

Place of birth: Cluj-Napoca, Romania **Gender:** Male

Phone number: (+40) 264401484 **Email address:** Mihai.Negru@cs.utcluj.ro

Email address: negrumihai@gmail.com

LinkedIn: mihai-negru

Website: https://mihai.utcluj.ro/

Work: Baritiu 26-28, Room 6, 400027 Cluj-Napoca (Romania)

ABOUT ME

I am a computer science engineer, PhD in computer vision, having a vast experience in both industry and applied research, with a strong focus on developing and deploying computer vision and machine learning based solution for driving assistance functions and autonomous driving technologies.

I was involved in more than 20 research projects and have been teaching computer architecture and embedded systems for more than a decade.

I am skilled in embedded software design and optimization, computer vision, pattern recognition and machine learning.

WORK EXPERIENCE

Technical University of Cluj-Napoca, Computer Science Department – Cluj-Napoca, Romania

City: Cluj-Napoca | **Country:** Romania

Associate Professor

[01/10/2019 – Current]

Teaching: Computer Architecture and Design with Micro-processors for bachelor students. Responsible for the Computer Architecture Lectures (English section) and Design with Micro-processors (Romanian Section)

Robert Bosch SRL – Cluj-Napoca, Romania

City: Cluj-Napoca | **Country:** Romania

Group Leader

[01/07/2021 – Current]

Design and optimization of (embedded) image processing and machine learning algorithms for single and multi-camera systems for driving assistance and automated driving.

Robert Bosch SRL – Cluj-Napoca, Romania

City: Cluj-Napoca | **Country:** Romania

Lead Computer Vision Engineer

[04/09/2017 – 30/06/2021]

Design and optimization of (embedded) image processing algorithms for mono and stereo cameras for driving assistance and automated driving.

Technical University of Cluj-Napoca – Cluj-Napoca, Romania

City: Cluj-Napoca | **Country:** Romania

Senior Lecturer

[01/03/2016 – 30/09/2019]

Teaching: Computer Architecture and Design with Micro-processors for bachelor students. Responsible for the Computer Architecture Lectures (English section).
Teaching: Basis of Computer Architecture for master students

Technical University of Cluj-Napoca – Cluj-Napoca, Romania

City: Cluj-Napoca | **Country:** Romania

Lecturer

[01/10/2015 – 28/02/2016]

Teaching: Computer Architecture and Design with Micro-processors

Technical University of Cluj-Napoca – Cluj-Napoca, Romania

Address: 26-28 Baritiu Street, 400027 Cluj-Napoca (Romania)

Junior Lecturer

[01/10/2007 – 30/09/2015]

Teaching: Computer Architecture and Design with Micro-processors

Technical University of Cluj-Napoca – Cluj-Napoca, Romania

City: Cluj-Napoca | **Country:** Romania

Researcher

[2005 – Current]

Member of the Image Processing and Pattern Recognition Research Center
https://cv.utcluj.ro/

EDUCATION AND TRAINING

PhD in Computer Science and Information Technology

Technical University of Cluj-Napoca, Computer Science Department [01/10/2006 – 09/01/2015]

City: Cluj-Napoca | **Country:** Romania | **Website:** https://cs.utcluj.ro/

Master Degree in Computer Science

Technical University of Cluj-Napoca, Computer Science Department [01/10/2006 – 15/07/2008]

City: Cluj-Napoca | **Country:** Romania | **Website:** https://cs.utcluj.ro/

Bachelor's Degree in Computer Science

Technical University of Cluj-Napoca, Computer Science Department [01/10/2001 – 15/07/2006]

City: Cluj-Napoca | **Country:** Romania | **Website:** https://cs.utcluj.ro/

LANGUAGE SKILLS

Mother tongue(s): Romanian

Other language(s):

English

LISTENING C1 **READING** C1 **WRITING** C1

SPOKEN PRODUCTION C1 **SPOKEN INTERACTION** C1

German

LISTENING A1 **READING** A1 **WRITING** A1

SPOKEN PRODUCTION A1 **SPOKEN INTERACTION** A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

SKILLS AND COMPETENCES

Team work

- Accumulated experience during research projects and when working in the private sector.

Communication skills

- Developed during more than 15 years teaching experience
- Developed during the participation in various national and international research projects

Organisational / managerial skills

- Good organizational skills as project manager / project responsible for three research projects
- Good leadership skills as responsible for a team of more than 20 members, in last 4 years
- Organization and coordination, over several years, of the IEEE International Conference on Intelligent Computer Communication and Processing

Engineering competences

- Experience in software design and embedded systems design
- Thorough Understanding of Computer Architecture
- Experience in Monocular and Stereo Image Processing
- Very good knowledge of mathematical modelling of real world problems
- Experience in design and implementation of various image acquisition systems in both software and hardware
- Experience in design and development of Advanced Driving Assistance Systems
- Experience with optimization techniques of machine learning algorithms / deep neural network on embedded hardware
- Design and development of Cooperative Advanced Driving Assistance Applications (based on V2X technology - 802.11p wireless communication protocol)
- Embedded in vehicle CAN data acquisition
- Design and implementation of various communication protocols (UART, SPI, I2C, CAN, Bluetooth, Ethernet, etc.)

Programming Languages

- Proficient in C/C++, VHDL, Assembly language
- Good knowledge of SQL, HTML, CSS
- Basic Knowledge of Python, JavaScript

Operating Systems

- Microsoft Windows, Linux

Embeded platfroms

- Intel x86 – x64 based systems
- FPGA Xilinx platforms
- Atmel AVR Microcontrollers
- ARM Microcontrollers
- Nvidia Jetson
- Automotive SoCs for driving assistance systems

Other programs/software libraries

- OpenCV
- Latex
- Microsoft Office, Visio
- Git, CVS
- MySQL, Microsoft SQL Server

DRIVING LICENCE

Driving Licence: B

RESEARCH PROJECTS

[2005 – Current]

Research Projects

- IPCEI ME/CT EuroDrives 2/RUE Nr.2/C9/I4 18.10.2024 (2023-2026) - membru
- "CarSafe" - Platformă hibridă de comunicații prin lumină vizibilă și realitate augmentată pentru dezvoltarea de sisteme inteligente de asistență și siguranță activă a autovehiculelor, 21PCCDI/2018, director proiect component 3 - "Tehnologii de comunicație V2X pentru sisteme cooperative de asistare a conducerii si vehicule autonome" (2018-2020)
- Procesarea Imaginilor Captate cu Camere de Profunzime - NTT Data Romania, 3/29.09.2017, (2017-2018) - director proiect
- "UpDrive" – Automated Urban Parking and Driving, H2020 European research project (2016 –2019) – membru.
- "Image and data processing for automatic mapping", research project funded by Telenav GmbH (2016 – 2017) – membru
- "Understanding the driver's behaviour and the adaptation of driving assistance systems to this behaviour for increasing road safety", CI 1/1.2/2015, research project funded by UTCN (2015 –2016) – director proiect
- "SmartCoDrive – Cooperative Advanced Driving Assistance System Based on Smart Mobile Platforms and Road Side Units", national research project (2012 – 2016) – membru
- "COMOSEF – Co-operative Mobility Services of the Future", Celtic+ European research project (2012 – 2015) – membru
- "MULTISENS – Multi-scale multi-modal perception of dynamic 3D environments based on the fusion of dense stereo, dense optical flow and visual odometry information", PNII-Idei fundamental research project (2012 – 2016) – membru
- "COMOD – Modelarea Continua – de la Micro la Macro Scara a Materialelor Avansate in Fabricatia Virtuala", PN-II-ID-PCCE-100, (2010 – 2012) – membru
- "INSEMTIVES – Incentives for Semantics", FP7 European research project, (2010 – 2012) – membru
- "LarKC – LarKC: The Large Knowledge Collider", FP7 European research project (2010 – 2011) – membru
- "INTERSAFE – 2 – Cooperative Intersection Safety", FP7 project (2008 – 2011) – membru
- "Sensorial Perception and World Model Representation for Driving Assistance Systems", grant funded by Romanian Ministry of Education and Research, CNCSIS, code 1522/2009 (2009 – 2011) – membru
- "LEOSCOP – Stereoscop Experimental pentru Supravegherea Orbitelor Terestre Joase", national research project PN II D8 82093 (2008 – 2011) – membru
- "MODULAR – Stereo System Modular Design, research project funded by Volkswagen AG, Germany, (2008 – 2009) – membru
- "STEREOCLASS – Dense STEREO-Based Object Tracking and Classification for Pre-Crash-Applications", research project funded by Volkswagen AG, Germany, (2008) – membru
- "STEREOSENS – Stereo Sensor for City Automatic Cruise Control", research project funded by Volkswagen AG, Germany, 2007 – membru
- "HISENSE – Stereo Sensor for Highways", research project funded by Volkswagen AG, (2007) – membru
- "VAS – Vidavee Analitics System", (2007) – membru
- "DESPED – Stereo-Based Object Tracking and Pedestrian Recognition in Traffic Environments", research project funded by Volkswagen AG, Germany, (2006 – 2007) – membru
- "DESBOR – Dense Stereo-Based Object Recognition System for Automatic Cruise Control (ACC) in Urban Traffic Environments", research project funded by Volkswagen AG, Germany, (2006 – 2007) – membru
- "TRINOCULAR - Method and system for real-time acquisition of high-resolution 3D images based on trinocular stereo-vision", national research project funded by CNCSIS, A–884, 2006 – membru

SCIENTIFIC PUBLICATIONS

Publications

Google Scholar profile