

## **Curriculum Vitae**

# PERSONAL INFORMATION



PROFESSIONAL EEXPERIENCE

# Vlad-Cristian Miclea



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Sex M | Birth date 29/05/1990 | Nationality romanian

# Lecturer

Computer science department, Technical University of Cluj-Napoca, Cluj-Napoca, Romania.

 Subjects: Machine Learning, Logic Design, Proiectare logica, Digital System Design, Proiectarea Sistemelor Numerice, Arhitecutra Calculatoarelor

September 2019 – September 2021

September 2021 - Present

#### Assistant Professor

Computer science department, Technical University of Cluj-Napoca, Cluj-Napoca, Romania.

 Subjects: Logic Design, Proiectare logica, Digital System Design, Proiectarea Sistemelor Numerice, Arhitecutra Calculatoarelor

November 2014 - Present

#### **Research Assistant**

Image Processing and Pattern Recognition Reseach Center, Technical University of Cluj-Napoca, Cluj-Napoca, Romania.

- Research on computer vision algorithms for environment perception in traffic, aerial and indoor scenarios;
- Research on monocular depth estimation. Research on stereo reconstruction. Research on enhancing depth maps obtained from other depth sensors using machine learning.
- Involved in multiple European, national and industrial-based research projects as member. Manged one research project as director.
- January 2014 July 2014 Research Internship

Institut National des Sciences Appliquées de Lyon - INSA, Citi Lab, INRIA, France.

Research on designing a Processor Computing Just Right

# June 2012 – October 2012 Research Internship

Institut National de Recherches en Informatique et en Automatique, INRIA, Centre Nancy Grand-Est, France

 Research in cryptography - Reconfigurable Hardware implementation of the Cofactorisation Step in Function Field Sieve (FFS) project

## Sept. 2011 – June 2012 Research Internship

National Instruments, Cluj-Napoca, Romania

 Research on the project concerning fault tolerance on memory and FIFO's using TMR systems implemented on FPGA

# October 2007 – July 2010 Member

YouthBank Cluj programme - Cluj Community Foundation, Cluj-Napoca

Trainer, fundraiser, PR



EDUCATION	
2015 - 2021	<ul><li>PhD</li><li>Technical University of Cluj-Napoca, Cluj-Napoca, Romania</li><li>Real-time Depth Perception Techniques using Machine Learning</li></ul>
2013 - 2014	Master Ecole Normale Supérieure de Lyon, Lyon, Franta • Research Masters in Fundamental Informatics
2009 - 2013	Engineer diploma Technical University of Cluj-Napoca, Cluj-Napoca, Romania • Computer science (in English)
Sept 2010 - Dec 2010	Erasmus Student University College Cork, Cork, Irlanda
2005 - 2009	Baccalaureat Diploma Liceul Teoretic "Nicolae Balcescu", Cluj-Napoca, Romania • Profil real, Matematica-Informatica
PERSONAL COMPETENCES	
Mother tongue	Romana

Languages	COMPREHENSION		SPEAKING		WRITING	
	Listening	Reading	Conversation	Speech		
English	C1	C1	C1	C1	C1	
	Cambridge English: Advanced (CAE): May, 2013					
French	B2	B2	B1	B1	B1	
	TUC-N certificate: March 2013					
Communication skills Organizational/managerial competences Computer competences	<ul> <li>Sociable and communicative, honest, self-confident, optimistic, calm and able to focus under pressure, reliable</li> <li>Leadership (student's president, TUCN)</li> <li>Graduate of several CODECS modules</li> <li>Languages: VHDL, SystemC, C, C++, JAVA, Python, CUDA C, MATLAB, LATEX</li> <li>Operating Systems: Windows, Linux</li> <li>Microsoft Visual Studio, Eclipse IDE, CLion IDE, PyCharm IDE, Xilinx ISE, Matlab</li> </ul>					

Drivers licence B



Selected projects • As director:

- ADARDE Adaptive Deep Learning for Cross-domain Robust Monocular Depth Perception (2022-2024); PN-III-P1-1.1-PD-2021-0783;
- As member (at TUC-N):
  - SEPCA, "Visual Semantics and Integrated Control for Autonomous Systems" (2018-2022);
  - MULTISPECT Multispectral Environment Perception by Fusion of 2D and 3D Sensorial Data from the Visible and Infrared Spectrum;
  - UP Drive, "Automated Urban Parking and Driving", H2020 project (2016-2020);
  - Reconfigurable ROS-based Resilient Reasoning Robotic Cooperating Systems", FP7 ARTEMIS (2014-2017);
  - SMARTCODRIVE, "Cooperative Advanced Driving Assistance System Based on Smart Mobile Platforms and Road Side Units" (2012 - 2016);
- As member (at INRIA):
  - MetaLibM ANR: Code generation for mathematical functions and filters (SOCRATE, INRIA Lyon – 2013-2014);
  - Function field sieve: implementation and hardware acceleration (CARAMEL, INRIA Nancy -2012).

 V. Miclea and S. Nedevschi, "Monocular Depth Estimation with Improved Long-range Accuracy for UAV Environment Perception", IEEE Transactions on Geoscience and Remote Sensing, doi: 10.1109/TGRS.2021.3060513. I.F: 8.2

- Suhasini Joshi et.al., Pharmacologically controlling protein-protein interactions through epichaperomes for therapeutic vulnerability in cancer, Communications Biology 4 (1), 1-2. **I.F. 6.55**
- V. Miclea and S. Nedevschi, "SGM-MDE: Semi-global optimization for classification-based monocular depth estimation", 2020 IEEE/RSJ, International Conference on Intelligent Robots and Systems (IROS), Las Vegan, NV, USA. **Rank A conference.**
- V. Miclea and S. Nedevschi, "A unified method for improving long-range accuracy of stereo and monocular depth estimation algorithms," 2020 IEEE Intelligent Vehicles Symposium (IV), Las Vegas, NV, USA.
- V. Miclea and S. Nedevschi, Real-Time Semantic Segmentation-Based Stereo Reconstruction, in IEEE Transactions on Intelligent Transportation Systems. doi: 10.1109/TITS.2019.2913883, I.F: 8.5
- V. C. Miclea, L. Miclea, and S. Nedevschi. Real-time stereo reconstruction failure detection and correction using deep learning. In The 21st IEEE International Conference on Intelligent Transportation Systems (ITSC), Maui, Hawai, USA, November 2018.
- V. C. Miclea and S. Nedevschi. Real-time semantic segmentation-based depth upsampling using deep learning. In 2018 IEEE Intelligent Vehicles Symposium (IV), June 2018 - Best Applicative Paper Award.
- V. Miclea and S. Nedevschi. Semantic segmentation-based stereo reconstruction with statistically improved long range accuracy., 2017 IEEE Intelligent Vehicles Symposium (IV), pages 1795–1802, June 2017, Los Angeles, CA, USA.
- C. C. Vancea, V. C. Miclea, and S. Nedevschi. Improving stereo reconstruction by sub-pixel correction using histogram matching. In 2016 IEEE Intelligent Vehicles Symposium (IV), pages 335–341, June 2016, Gothenburg, Sweden.

Cluj-Napoca 07.11.2023