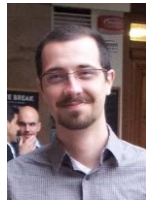


Curriculum Vitae

Personal information



Name **Varga Róbert**

Address 26 George Barițiu Street, Room D02, 400394
Cluj-Napoca, Cluj County, Romania

Telephone

E-mail robert.varga@cs.utcluj.ro

Website <http://users.utcluj.ro/~robert> (work)

Nationality Romanian

Date of birth 16 November 1987

Gender Male

Work experience

Dates **2012 onwards**

Occupation or position held Assistant professor (from 2019), Research assistant

Main activities and responsibilities Courses held: Computer Programming, Data Structures and Algorithms, Image Processing, Pattern Recognition Systems, Object Oriented Programming, Introduction to Big Data
Research in the domain of: computer vision; deep learning; stereo-vision; sensor calibration
Involved in EU funded projects: Insemtives FP7, PAN-Robots FP7, Up-Drive H2020

Name and address of employer Technical University of Cluj-Napoca, Faculty of Automation and Computer Science

Education and training

Dates **2012-2017**

Title of qualification awarded PhD in Computer Science and Information Technology

Principal subjects/occupational skills covered - Machine learning, probability and statistics, image processing, object detection, stereo-vision, photogrammetry, convolutional networks

Dates **2010-2012**

Title of qualification awarded Master in Computer Science, Artificial Intelligence and Computer Vision

Principal subjects/occupational skills covered - Artificial intelligence, machine vision, image processing, object recognition, image annotation
- Distributed systems, computer networks

Dates **2006-2010**

Title of qualification awarded Engineer in Automatics

Principal subjects/occupational skills covered - Mathematics (calculus, algebra, discrete mathematics, special mathematics)
- Dynamic system modeling, system theory, process automation, system identification
- Real-time systems, distributed control systems, advanced control systems (genetic algorithms, fuzzy logic), Robot Control
- C/C++ programming, data structures and algorithms
- Object Oriented Programming Techniques (UML diagrams, Java, C#, Design patterns)
- Web design and programming (XHTML, CSS, PHP, JavaScript)
- Electrical circuits, power electronics
- Analogic and Digital Circuits, Computer Architecture

Name and type of organization providing education and training Technical University of Cluj-Napoca, Faculty of Automation and Computer Science
Automation and Applied Informatics Department (Romanian classes)

Dates **2002-2006**

Title of qualification awarded Baccalaureate diploma

Principal subjects/occupational skills covered Informatics (programming in Pascal), Mathematics (calculus, algebra, analytic geometry, trigonometry)

Name and type of organization providing education and training Simion Bărnuțiu National College, Șimleu Silvaniei

Personal skills and competences

Mother tongue

Other languages

Hungarian

English

German

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C2	Proficient User	C2	Proficient User	C2	Proficient User	C2	Proficient User	C2	Proficient User
A2	Basic User	A2	Basic User	A1	Basic User	A2	Basic User	A2	Basic User

* Cambridge Advanced English (CAE) grade A

Social skills and competences

- Finished pedagogical module, teaching abilities gained through teaching science and music

Technical skills and competences

- Programming Languages: C, C++, Matlab, Java, Python, C#, Prolog, Php, Android
- Mathematics: Real and complex calculus, differential equations, numerical methods, linear and abstract algebra, statistics and probability, number theory
- Digital Image Processing algorithms using several libraries including OpenCV 3.x and Matlab
- PLC programming using ladder diagrams (OMRON, SIEMENS, Allen Bradley)
- Database Management Systems: Microsoft SQL Server 2000, MySQL
- IDEs: Microsoft Visual Studio 2019, Eclipse, MatLab 2020a, IntelliJ IDEA, Mathematica 5.2, CodeBlocks, AutoCad/Lisp, pyCharm
- Office and graphics suites: Microsoft Office 2003/2010 + MathType
- LaTeX based text editors (TexMaker, Led, Miktex, Overleaf)
- Basic experience with Linux (Ubuntu 17.04) and computing grids

Artistic skills and competences

- Advanced musical skills (piano and guitar), musical theory, music sheet reading, composition
- Youtube channel <https://www.youtube.com/user/mrvargarobert/>
- Several compositions for piano solo, multiple instruments and orchestra
- Sound editing and arrangement softwares: CoolEdit Pro 2, GuitarPro 7, NoteWorthy, Audacity

Accomplishments

- Solved 830 problems on Project Euler (1st in Romania, top 0.007% among 1.3 million participants)
- Participations on Codeforces (rating ~2000), Google Kickstart, CodeJam, Facebook Hackercup
- Received Romanian Academy prize Constantin Budeanu in 2019
- Certificate from Coursera course: Machine Learning (Stanford, Andrew Ng)
- Completed Stanford CS231n: Convolutional Neural Networks for Visual Recognition
- Completed JAVA training at Softvision in July 2010 as best from that year's team
- Study scholarship from the 1st year of the university and onwards, grade average over 9.50
- 1st prize obtained at Traian Lalescu Mathematics contest in 2007
- Mensa member – high IQ society

Driving License

- Category B

Hobbies

- Science, music (playing and listening), sports (jogging, swimming, basketball, cycling), reading, learning, movies, computer games

Additional information

- PhD Thesis: **Object detection based on candidate generation and classification** (C++)
- Master Thesis: **Automatic Image Annotation Using Label Transfer and Compactness** (C++)
- Bachelor Thesis: **Comparative analysis of urban traffic control algorithms** (Java)
- Java applications developed: Musical Metronome, Ear Trainer – interfaced with a MIDI keyboard, German words trivia
- Gödel library for Deep Learning (C++) https://gitlab.com/mr.varga.robert/Godel_DL
- **H2020** Up-Drive (multisensory perception); **FP7** European Projects: **Insemtives** (image annotation), **CoMoSeF** (pedestrian detection), **PAN-Robots** (pallet detection, stereo-vision depth estimation)

Publications

- Super-sensor for 360-degree Environment Perception: Point Cloud Segmentation Using Image Features, ITSC 2017, Yokohama – best student paper
- Robust pallet detection for automated logistics operations, VISAPP 2016, Rome
- Label Transfer by Measuring Compactness, IEEE Transactions On Image Processing, Vol. 22, No. 12, December 2013 – high impact ISI journal
- Gradient-based Region of Interest Selection for Faster Pedestrian Detection, ICCP 2013, Cluj-Napoca