Curriculum Vitae

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PROFESSIONAL EXPERIENCE

Óbuda University, John von Neumann Faculty of Informatics

2022-	Dean, John von Neumann Faculty of Informatics
2020-	Head of Biomatics and Applied Artificial Intelligence Institution
2019-2020	Deputy head of Biomatics and Applied Artificial Intelligence Institution
2020-	Associate Professor
2018-2020	Assistant Professor
2017-2021	English Program Coordinator
2017-2018	Senior Lecturer
2015-2017	Departmental engineer

Óbuda University, International Education Office

2019-2020	Head of Unit, International Training Department

Óbuda University, University Research and Innovation Centre, Physiological Controls Research Center

2013-	Researcher

Freelancer

2017-	Corporate advisor, Industrial Project Officer, CSO

Industrial Engineer

2009-2012	Industrial engineer in domestic and multinational companies (design and manufacturing focus)

CERTIFICATES

PhD course, Computer science, Sep 2013 - Jun 2017
Óbuda University, Budapest, Hungary
Applied Informatics and Applied Mathematics Doctoral School
Topic: Closed-Loop Controller Design Possibilities for Nonlinear Physiological Systems

MSc course, Biomedical engineering, Sep 2011 - Jun 2013
Budapest University of Technology and Economics, Budapest, Hungary
Faculty of Electrical Engineering and Information Technology
Theme: development of a user interface and insulin pump for artificial pancreas control

BSc course, Mechatronics engineering, Sep 2006 - Jun 2011
Óbuda University, Budapest, Hungary
Bánki Donát Faculty of Mechanical and Safety Engineering
Topic: heat pumps itroduction, model building and design of a demonstration device

RESEARCH AREA

- Physiological modeling and control
- Research into engineering-based treatment options for diabetes
- Application of artificial intelligence, methodology development, mainly in physiological modelling and control tasks
- Research and development of cyber-medical systems
- Linear parameter variable systems and control, application of tensor multiplication transformations
- Implementation of industrial research tasks on the basis of project, tender or customer requirements

I am also leading or participating in several researches in different non-physiological directions (detection of autism in preschool, artificial intelligence based automated commerce, facilitating enterprise resilience and performance improvement based on statistical and artificial intelligence, eXplainable AI, brain-computer interface, precision farming, and robotics platform subsystem development)

PROFESSIONAL PROJECTS

University of Óbuda

- Professional Leader, University of Óbuda Zsámbéki Future Industry Science and Innovation Park (2022-)
- Subproject Leader, Researcher, Innovation Service Base for the Development of Cyber Medicine Systems for Diagnostics, Therapy and Research (2020-2024)
- Research, Thematic Excellence Programme, Development and assessment of innovative and digital health technologies (2022-2025)
- Project Leader, 2019-2.1.11-TÉT-2020-00217, Continuous logic for more transparent machine learning: implementation of new types of neural networks in image recognition (2021-2023)
- Postdoctoral Researcher, "Tamed Cancer" ERC Starting Grant project (2016-2021)
- Researcher, TÁMOP 4.2.2.D-15/1/KONV-2015-0002 project, "Development of smart technologies for supporting high-tech industrial areas" (2015)
- Researcher, National Development Agency, Programme GOP-2011-1.1.1, Project GOP-1.1.1-11-2012-0055, "DIALOGIC - Decision support system based on mathematical modelling to improve healthcare services for people with diabetes" (2012-2013)
- Researcher, National Development Agency, GOP-2011-1.1.1 programme, GOP-1.1.1-11-2012 project, "ROBOT-X - Development of a robot building kit for educational, hobby and research and development purposes" (2013- 2014)

COMPUTER AND PROFESSIONAL SKILLS

Engineering programs, programming languages
MATLAB, SCILAB, Python, Julia, C#
CAD-CAM skills
Solidworks, AutoCad, SolidEdge, ProE, Catia, Altium Designer
Office software
MS O365, Office (Word, Excel, Powerpoint, Visio), LATEX, Mailing systems, G Suite
Collaboration platform
Slack

Other knowledge
General high-level programming languages
Machine learning, Artificial Intelligence
Application writing experience (Hungarian and EU)
Category B driving licence

LIST OF LANGUAGES

English: conversational level, intermediate English (complex C intermediate)
German: basic German, occasional use (basic)

SCHOLARSHIPS AND AWARDS

Special Award, Hungarian Diabetes Association and Boehringer Ingelheim Young Researcher of the Year, Óbuda University, 2019
IEEE Senior Member, Institute of Electrical and Electronics Engineers, 2019 Meritorious Service Award, IEEE Systems, Man, and Cybernetics Society, 2019
Most Active Technical Committee Award (Cybernetics), IEEE Systems, Man, and Cybernetics Society, 2019
Research Fellowship, New National Excellence Program (NIP), Ministry of Human Resources, 2017-2018
Research Fellowship, New National Excellence Program (NIP), Ministry of Human Resources, 2016-2017
Student Publication Award, Óbuda University, 2016
Outstanding Contribution Award, IEEE Systems, Man, and Cybernetics Society, 2016
Finalist, Best Conference Paper Award, IEEE Systems, Man, and Cybernetics Society 2016, International Conference, 2016
Institutional Award for Outstanding Student Publication Achievement, Óbuda University, Neumann János Informatics Faculty, Institute of Biomatics, 2016
Finalist, Antal Bejczy Student Publication Competition, University of Óbuda, University Research, Innovation and Service Centre, Antal Bejczy iRobot Technology Centre, 2016
Győztes, Best Conference Paper Award for the paper "Robust Fixed Point Transformation based Proportional-Derivative Control of Angiogenic Tumor Growth", 2018 IFAC Conference on Advances in Proportional-Integral-Derivative Control, 2018
Dean's Commendation for Outstanding Work in the Interest of the Faculty (Neumann János Informatics Faculty, Óbuda University), 2018

MEMBERSHIP OF SCIENTIFIC AND PROFESSIONAL BODIES

Institute of Electrical and Electronics Engineers - IEEE, Piscataway, New Jersey, US

Vice Chair, Membership and Student Activities Committee, IEEE Systems, Man, and Cybernetics Society, 2022-2023
Vice Secretary, IEEE Systems, Man, and Cybernetics Society, 2021-2022
Board Member-Elect, IEEE Systems, Man, and Cybernetics Society, 2017-2019, 2020-2022 Co-Chair, Computational Cybernetics Technical Committee, 2017-
Vice Chair, Hungarian Chapter of IEEE Systems, Man, and Cybernetics Society, 2021-2023 Chair, Young Professional Subcommittee, IEEE Systems, Man, and Cybernetics Society, 2017-
Program Coordinator, Membership and Student Activities Committee, IEEE Systems, Man, and Cybernetics Society, 2017-
Chair, Student Activities Subcommittee, IEEE Systems, Man, and Cybernetics Society, 2014-2017 Chair, IEEE Hungary Section, Student and Professional Activities, 2017-
Tag, IEEE, IEEE SMC, IEEE BMS, IEEE RAS, IEEE WiE, IEEE YP, 2013-
SMC Society Representative, IEEE Young Professional Liason, 2017-

Tag, Cyber-Medical Systems Technical Committee, Brain-Machine Interface Systems Technical Committee, IEEE Systems, Man, and Cybernetics Society, 2017

European Society for Mathematical and Theoretical Biology (ESMTB)
Tag, 2019 -

College of Robotics, Óbuda University
Day, 2015 -
Director, 2020 - 2023

Hungarian Academy of Sciences, Budapest, Hungary
Member of the Public Council, 2018 -

Artificial Intelligence Coalition
Day, 2020-
Applications Working Group Member, 2021- MI Ambassador, 2022- Representative of Óbuda University, 2021-

Hungarian Diabetes Association
Secretary, Artificial Pancreas Working Group, 2021-

John von Neumann Computer Science Society
Member, 2022-

PUBLICATION STATISTICS JOURNALS
13 international journals, scientific magazine publications
7 publications in national journals, scientific magazines
INTERNATIONAL CONFERENCES
69 international and 5 Hungarian conference papers
BOOKLET
3 book excerpts
ABSTRACT AND OTHER SCIENTIFIC COMMUNICATION
14 publications
CITATIONS
148 independent citations, 310 citations overall

TEACHING ACTIVITIES
EDUCATION ORGANISATION
Specialisation leader
Artificial Intelligence specialisation, Computer Science Engineering BSc

SUBJECTS TAUGHT IN HUNGARIAN
Control engineering (lab, BSc, 2016-) Electronics (lab, BSc, 2013-)
Digital Technology (lab, BSc, 2013-2014)
Systems and Control Theory (theory, MSc, 2019-) Documentation Techniques (theory, 2021-)

SUBJECTS TAUGHT IN ENGLISH
Electronics (laboratory, BSc, 2013-)
Control engineering (theory + laboratory, BSc, 2015-) Distributed Embedded Systems (theory, MSc, 2014-2016)
Embedded Informatic Embedded Systems (theory, MSc, 2015-2016) High-Availability Embedded Systems (theory, MSc, 2017-)

Intelligent Systems (theory, BSc, 2019-) System Theory (theory, BSc, 2021-)
Introduction to Machine Learning (theory, BSc, 2022-)

THESIS WORK / DIPLOMA WORK SUPERVISOR
ÓBUDA UNIVERSITY
Thesis (BSc): 6 students in progress (defended: 3 students so far)
Diploma thesis (MSc): 8 students in progress (defended: 4 students so far)
Thesis work (BSc): 0 students in progress (defended: 3 students so far)
Thesis work (MSc): 1 in progress (defended so far: 2)

BUDAPEST UNIVERSITY OF TECHNOLOGY AND ECONOMICS
Diploma thesis (MSc): 4 in progress (defended so far: 4)

DOCTORAL THESIS SUPERVISOR
ÓBUDA UNIVERSITY

Árpád Varga (2017-), full-time PhD, Co-Supervisor
Topic: modelling and control of transport and other non-linear processes with time delay

Máté Siket (2019-), full-time PhD, Co-Supervisor
Topic: model-based analysis of life systems and signals

Ferenc Tolner (2020-), Corresponding PhD, Co-Supervisor
Topic: using data mining and artificial intelligence methods for economic analysis on small and medium data sets

Lehel Dénes-Fazakas (2020-), full-time PhD, Co-Supervisor
Topic: process modelling and control using machine learning

Tuan-Anh Tran (2021-), full-time PhD, Co-Supervisor
Topic: dynamic optimization of human resources utilization with the process -mining and -simulation technique based on data from IoT

Ádám Nemes (2022-), full-time PhD, Co-Supervisor
Topic: Processing brain signals with machine learning

Luca Sára Pusztaházi (2022-), full-time PhD, Co-Supervisor
Topic: Towards Explainable Artificial Intelligence: Implementing Continuous Logic and Multicriteria Decision Tools in Neural Models

REVIEWING ACTIVITIES
Doctoral dissertation: ÓE, PTE

Thesis, Diploma thesis: ÓE, BME, PE, SzIE

Scientific Student Conference, National Scientific Student Conference

International conferences: IEEE SAMI, IEEE SACI, IEEE INES, IEEE CINTI, IEEE CDC, IEEE SISY, IEEE SMC, IEEE ICIEA, IFAC CMPB, IEEE IWOBI, IFAC WC, Neumann colloquium

International journals: IEEE Journals, IEEE Access, Plos One, Acta Polytechnica Hungarica, Applied Soft Computing, Transactions on Fuzzy Systems, Mathematics and Computers in Simulation, Asian Journal of Control, Ain Shams Engineering Journal, MDPI journals

ORGANISATION OF SCIENTIFIC AND PROFESSIONAL EVENTS

MEMBERSHIP OF THE EDITORIAL BOARD
IEEE Access, Associate Editor, (2019-)
IEEE Systems, Man, and Cybernetics Magazine, Associate Editor, (2019-)
Acta Polytechnica Hungarica, Associate Editor, (2017-)

MEMBERSHIP OF THE CONFERENCE ORGANISING COMMITTEE
Junior Co-Chair, IEEE Systems, Man, and Cybernetics Junior 2016 (SMC Junior 2016) Student Activities Co-Chair, IEEE Systems, Man, and Cybernetics 2016 (SMC 2016)
Junior Co-Chair, IEEE Systems, Man, and Cybernetics Junior 2017 (SMC Junior 2017)
Track Chair: SMC Junior, IEEE Systems, Man, and Cybernetics Junior 2017 (SMC Junior 2017)
Track Chair: SMC Junior, IEEE Systems, Man, and Cybernetics Junior 2018 (SMC Junior 2018)
Track Chair: Informatics Track, 16th International Symposium on Intelligent Systems and Informatics (SISY 2018)
Junior Co-Chair, IEEE Systems, Man, and Cybernetics 2019 (SMC 2019)
Junior Co-Chair, IEEE Systems, Man, and Cybernetics 2020 (SMC 2020)
Registration Co-Chair, IEEE Systems, Man, and Cybernetics 2021 (SMC 2021)
Workshop Chair, IEEE Systems, Man, and Cybernetics 2022 (SMC 2022)
Chair, Organizing Committee, System of Systems Engineering Conference 2020 (SoSE 2020)
PhD Track Co-Chair, IEEE conference on human-machine systems 2020
Student Program Chair, 12th IEEE Conference on Cognitive and Computational Aspects of Situation Management (CogSIMA) 2022

SPECIAL SESSION ORGANIZING COMMITTEE MEMBERSHIP
Co-Chair, Computational and Medical Cybernetics Special Session at IEEE SMC 2017
Co-Chair, Computational and Medical Cybernetics Special Session at IEEE SMC 2018
Co-Chair, Computational Cybernetics Special Session at IEEE SMC 2019
Co-Chair, Cyber-Medical Systems Special Session at IEEE SMC 2019
Co-Chair, Computational and Medical Cybernetics Special Session at IEEE SMC 2020
Co-Chair, Computational and Medical Cybernetics Special Session at IEEE SMC 2021
Co-Chair, Computational and Medical Cybernetics Special Session at IEEE SMC 2022

TECHNICAL PROGRAM COMMITTEE MEMBERSHIP
IEEE SAMI, IEEE SACI, IEEE INES, IEEE CINTI, IEEE SISY, IEEE SMC, Neumann colloquium, IEEE ICNSC, IEEE ETFA, IFAC BMS

OTHER MEMBERSHIP OF THE AUTHORS' COMMITTEE
Guest Editor, Computational Cybernetics, MDPI Electronics
Guest Editor, Recent Advances in Digital Healthcare and Applications, MDPI Sensors
Committee member, International Summer School on Companion Technology Summer School, September 9-13, 2017 in Ulm, Germany
Young Professionals in Space (YPS), June 17-21, 2018 in Barcelona, Spain
IEEE SMCS Thesis Grant Initiative 2017, Coordinator, (one of the initiators in 2017)
IEEE SMCS Thesis Grant Initiative 2018, Coordinator

SUMMARY OF WORK

https://m2.mtmt.hu/api/publication?cond=published;eq;true&cond=core;eq;true&cond=authors.mtid;eq;10040924&sort=publishedYear,desc&sort=firstAuthor,asc&page=1&size=20&fields=template&label

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