



Szilárd ENYEDI

Date of birth: 26/12/1976 | **Nationality:** Romanian | **Phone number:** (+40) 264401220 (Work) |

Phone number: (+40) 744433253 (Mobile) | **Email address:** Szilard.Enyedi@aut.utcluj.ro |

Address: Barîtiu 26-28, Automation Department, 400027, Cluj-Napoca, Romania (Work)

WORK EXPERIENCE

 **TECHNICAL UNIVERSITY OF CLUJ-NAPOCA** – CLUJ-NAPOCA, ROMANIA

Address Memorandumului 28, 400114, Cluj-Napoca, Romania | **Website** <http://www.utcluj.ro>

ASSOCIATE PROFESSOR – 01/10/2009 – CURRENT

Courses taught:

- Reliability and Diagnosis;
- Advanced Internet Technologies;
- User Interface Programming;
- Applications for the WWW;
- Web Technologies;
- Project Management;
- Digital Graphics;
- Computer-Aided Design;
- Distributed Control Systems;
- Process Equipment and Interfaces;
- Computer Programming;
- Advanced Programming;
- Operating Systems and Networks.

 **TECHNICAL UNIVERSITY OF CLUJ-NAPOCA** – CLUJ-NAPOCA, ROMANIA

WEBSITE ADMINISTRATOR – 03/2016 – CURRENT

- Hardware/software installation, security, CMS system adaptation, back-end/front-end development for the department and research projects;
- Server deployment, optimization and management;
- Site maintenance, staff, announcements, bilingual information.

 **UNIVERSITATEA TEHNICĂ DIN CLUJ-NAPOCA** – CLUJ-NAPOCA, ROMANIA

MOODLE LMS AND ONLINE/OFFLINE QUIZZES MANAGER – 02/2015 – CURRENT

- Hardware/software installation, security and maintenance of Moodle teaching system and modules for online/offline examination;
- Creation and management of teaching material, question banks and quizzes for examination in Moodle;
- Management of topics and printed grids, for scoring and automated analysis of results;
- Trainer for creating and managing teaching material and online/offline quizzes in Moodle.

 **TECHNICAL UNIVERSITY OF CLUJ-NAPOCA** – CLUJ-NAPOCA, ROMANIA

DEVELOPER FOR CONFERENCE SUBMISSION AND REVIEW SYSTEM, REGISTRATION SYSTEM, ONLINE PAYMENT AND ON-SITE CHECK-IN SOLUTION – 2012 – CURRENT

- Hardware/software installation, solution development and deployment for the IEEE AQTR conference sites (2004-ongoing), IEEE ETS 2015, IEEE DDECS 2019;
- Improvement, deployment and management of the PCChair paper submission/review system, for AQTR;
- Developing and securing the event participants registration and management system;
- Developing and securing the online payment subsystem, by bank transfer, online payment by card or at the event;
- Developing and securing the check-in subsystem, including a hybrid mobile application, for the multi-desk parallel management of registered guests arriving at the event.

 **CLUJ MINING INFORMATICS CENTER** – CLUJ-NAPOCA, ROMANIA

IT TRAINER – 07/2014 – 10/2015

- Mobile applications course;
- Multimedia and web applications course.

 **YPSYS S.A.** – EYSINS, SWITZERLAND

Address Route de Crassier 7, 1262, Eysins, Switzerland

IT TRAINER – 05/04/2010 – 10/04/2010

- Development training in Visual Studio and .NET.

 **TECHNICAL UNIVERSITY OF CLUJ-NAPOCA** – CLUJ-NAPOCA, ROMANIA

UNIVERSITY ENGINEERING LECTURER – 27/02/2007 – 30/09/2009

 **TECHNICAL UNIVERSITY OF CLUJ-NAPOCA** – CLUJ-NAPOCA, ROMANIA

UNIVERSITY ASSISTANT LECTURER – 01/03/2005 – 26/02/2007

 **TECHNICAL UNIVERSITY OF CLUJ-NAPOCA** – CLUJ-NAPOCA, ROMANIA

JUNIOR LECTURER – 01/10/2001 – 28/02/2005

 **IPA S.A., CLUJ-NAPOCA BRANCH** – CLUJ-NAPOCA, ROMANIA

Address Zorilor 15, 400335, Cluj-Napoca, Romania

IT TRAINER – 2002

- Internet Basics course

 **CLUJ CHAMBER OF COMMERCE AND INDUSTRY** – CLUJ-NAPOCA, ROMANIA

Address Horea 3, 400174, Cluj-Napoca, Romania

IT TRAINER – 2001

- Internet Basics course;
- Course o Basics of programming in Delphi.

● **EDUCATION AND TRAINING**

02/2024 United States

ADVANCED DIGITALIZATION OF INDUSTRIES: FROM INDUSTRIAL IOT TO CLOUD/FOG AUTOMATION

IEEE IoT Technical Community

- Vision of Cloud/Fog Automation
- Software defined wireless for Cloud/Fog Automation
- 5G for Cloud/Fog Automation
- Communication-Computing-Control Co-Design
- Future perspectives

Field of study Inter-disciplinary programmes and qualifications involving Information and Communication Technologies (ICTs)

02/2024

HOW C-V2X IS BOLSTERING AUTOMOTIVE SAFETY IEEE Continuing Education

- Improving ADAS systems with C-V2X
- C-V2X interoperability with global and regional standards
- C-V2X security
- The OmniAir system

11/2023

ADAPTING THE ELECTRICAL GRID FOR GREEN ENERGY IEEE Continuing Education

- Renewable energy
- The latest in storage solutions
- Multi-physics simulation of solutions (fluid, thermal, electrical, magnetic, chemical)

09/2021

BLOCKCHAIN EXPERIENCE IEEE EMEA

- Blockchain in Europe
- Blockchain and IoT
- Blockchain in supply chains
- Fintech and blockchain
- Online voting and blockchain
- Cryptocurrencies
- The electronic health record and blockchain

05/2021

THE IMPORTANCE OF COLLABORATION IN RESEARCH Clarivate Web of Science

- Assessment, identification and openness to collaboration
- Improving visibility
- Unlocking barriers

05/2021

FUNDING OF RESEARCH ACTIVITIES Clarivate Web of Science

- Identifying historical trends
- Alignment of research results with the strategic plan

02/2021

AWS INNOVATE - AI & MACHINE LEARNING Amazon, Inc. & Intel, Inc.

- Creating machine vision models
- Machine learning scaling
- Implementing machine learning models
- Open-source platforms for machine learning

2020

MICROSOFT TEAMS TRAINING Technical University of Cluj-Napoca

05/11/2019 Cluj-Napoca, Romania

TEACHING WITH MATLAB Technical University of Cluj-Napoca

- Installing MATLAB
- Using MATLAB to Increase Student Engagement
- Student engagement with "live scripts"
- Access and run MATLAB files from anywhere with MATLAB Online
- Use MATLAB Drive to share files with collaborators and students
- Incorporating MATLAB educational resources into the teaching process
- Assessing knowledge with MATLAB Grader

National classification Nivelul 7 CEC

06/2018 Cluj-Napoca, Romania

IBM WORKSHOP ON WATSON DEVELOPER CLOUD WITH BLUEMIX Technical University of Cluj-Napoca

- Cloud computing
- Bluemix Services
- SPSS Statistics
- IBM Watson

National classification Nivelul 6 CEC

11/07/2016 – 16/07/2016 Romania

SMART CITIES SUMMER SCHOOL Technical University of Cluj-Napoca, OSUT Cluj-Napoca, Innovation Labs

- Electronics for the Internet of Things
- IoT sensor development and platforms
- Software for the Internet of Things

- Sensors and Peripherals
- Web servers

Level in EQF EQF level 6

19/02/2016 Cluj-Napoca, Romania

CERTIFICATE OF ENGLISH LANGUAGE PROFICIENCY Technical University of Cluj-Napoca

National classification Nivelul 6 CEC

13/05/2013 – 16/05/2013 București, Romania

SERVICE ORIENTED ARCHITECTURES Oracle University

Field of study Informatică | **Level in EQF** EQF level 7

15/10/2011 – 16/10/2011 Bucharest, Romania

ADVANCED USER OF CONCORD AND MOODLE EDUCATIONAL PLATFORMS Politehnica University Bucharest

Address Splaiul Independenței 313, 060042, Bucharest, Romania | **Field of study** Informatică |

National classification Nivelul 7 CEC

12/05/2011 Cluj-Napoca, Romania

ENGLISH LANGUAGE CERTIFICATE Technical University of Cluj-Napoca

Level in EQF EQF level 6

01/2010 – 01/2010 Cluj-Napoca, Romania

PROJECT MANAGER CERTIFICATE (R38) National Authority for Qualifications

Address Valter Mărăcineanu 1-3, 010155, Cluj-Napoca, Romania | **Field of study** Comerț și administrație |

Level in EQF EQF level 7

09/06/2008 – 11/06/2008 Cluj-Napoca, Romania

DELTA V IMPLEMENTATION SKILLS CERTIFICATE Emerson Process Management

- Implementation and usage of the DeltaV process management system.

Address P.O. Box 212, AE 2280, Cluj-Napoca, Romania | **Field of study** Inginerie și tehnici înrudite | **Level in EQF** EQF level 6

2000 – 2008 Cluj-Napoca, Romania

DOCTORATE IN ELECTRONIC AND TELECOMMUNICATIONS ENGINEERING Technical University of Cluj-Napoca

- Research and development in distributed systems, Internet and communications technologies.

Address Memorandumului 28, 400114, Cluj-Napoca, Romania | **Field of study** Electronics and automation |

Final grade Magna Cum Laude | **Level in EQF** EQF level 8

07/2007 – 07/2007 Cluj-Napoca, Romania

TESTSTAND USER CERTIFICATE Konrad GmbH

- Test development and evaluation
- Teststand platform usage

Address Fritz-Reichle-Ring 5, 78315, Cluj-Napoca, Romania | **Field of study** Electronics and automation |

Level in EQF EQF level 6

2000 – 2001 Cluj-Napoca, Romania

MASTER IN MODERN TECHNIQUES IN AUTOMATIC CONTROL Technical University of Cluj-Napoca

- Robust control, adaptive control
- Real time systems

- Signal processing
- Modeling and simulation of dynamic processes

Address Memorandumului 28, 400114, Cluj-Napoca, Romania | **Field of study** Inginerie și tehnici înrudite |

Level in EQF EQF level 7

1995 – 2000 Cluj-Napoca, Romania

ENGINEER'S DEGREE IN AUTOMATION AND INDUSTRIAL INFORMATICS Technical University of Cluj-Napoca

- Data structures and programming techniques
- Database design and use
- Computer architectures and programming
- Data transmission
- Knowledge-based systems
- Electronics and electrotechnics
- Analysis and synthesis of control systems
- Systems theory
- Reliability and diagnosis
- Automation equipment

Address Memorandumului 28, 400114, Cluj-Napoca, Romania | **Field of study** Electronics and automation |

Level in EQF EQF level 6

1997 – 1999 Cluj-Napoca, Romania

PEDAGOGY CERTIFICATE Technical University of Cluj-Napoca

- Teaching methodologies
- Pedagogy

Address Memorandumului 28, 400114, Cluj-Napoca, Romania | **Field of study** Formarea profesorilor și științele educației |

Level in EQF EQF level 6

● LANGUAGE SKILLS

Mother tongue(s): **HUNGARIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ROMANIAN	C2	C2	C2	C2	C2
ENGLISH	C1	C2	C2	C1	C2
ITALIAN	B2	B1	B1	B1	B1
GERMAN	B2	B1	B1	B1	B1
FRENCH	B1	B1	B1	B1	B2

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

● DRIVING LICENCE

Driving Licence: B

● PROJECTS

Projects

National grants (selection):

- Sz. Enyedi (membru): "Strategic Framework for the Adoption and Utilization of Innovative Technologies in Public Administration 2021-2027 - Solutions for Increasing the Efficiency of Activity", SIPOCA 704, MySMIS 2014+ 129878, 2020.
- Sz. Enyedi (member, education expert): "Entrepreneurial Competences and Research Excellence in Doctoral and Post-Doctoral Study Programs - ANTREDOC", POCU/380/6/13, 2019.
- Sz. Enyedi (member, long-term expert): "Robots and Society: Cognitive Systems for Personal Robots and Autonomous Vehicles - ROBIN", 72PCCDI, 3/2018.
- Sz. Enyedi (member, long-term expert): "Increasing the Competitiveness of Enterprises through Enhancing and Specializing Human Resources in New Technology Fields, in a Knowledge Based Society and for a Durable Development", POSDRU contract 81/3.2/5/53084, 2010 -2013.
- Sz. Enyedi (coordinator): "Contributions to the Design for Testability of Distributed Systems", CNCSIS contract type Td, code 222, no. 33385/2004, 2004-2006.

International grants (selection):

- Sz. Enyedi (member): "Design of self-maintaining, cloud-based cyber-physical systems based on cloud computing - CyCloSe", Romanian-Italian bilateral collaboration project, no. 642/2013
- Sz. Enyedi (member): "Design, Test and Verification of Embedded Systems with Microprocessors and Applications in the Diagnosis of Complex Systems", Romanian-Greek bilateral collaboration project, theme 5, 2003-2005.
- Sz. Enyedi (member): "Development of On-Line BIST Structures for Distributed Systems, in the Context of the Concurrent Engineering Environment", Romanian-Italian bilateral collaboration project, no. 42/2000, 2001-2003.

● **SKILLS ACQUIRED IN THE WORKPLACE**

Skills acquired in the workplace

- Technologies for education
- Automation of administrative tasks
- Advanced Internet technologies
- Internet of Things
- Blockchain and distributed storage
- Big Data
- Machine learning
- Neural Networks in Edge computing
- Mobile and wearable platforms
- e-Health
- Cyber-physical systems
- Communication systems
- Multiagent technologies
- Reliability and diagnosis
- Electrification of transport
- Modeling and simulation
- These were acquired through learning, training, practical experiments and the preparation of teaching material for courses and laboratories.

● **RESEARCH**

Research

- ORCID 0000-0002-1526-2666
- Over 70 papers published in journals and conference volumes
- 7 books and 2 book chapters
- 32 ISI citations, 22 other international citations
- Member of 31 research projects, 3 international, director of one
- Co-organizer of several international conferences
- Member of IEEE, IEEE Transportation Electrification Community, IEEE IoT Community and IEEE-TTTC (IEEE Test Technology Technical Council)

● **PUBLICATIONS**

Publications

Books and book chapters (9 books, 2 book chapters), selection:

- I. Stefan, D. Goța, L. Miclea, H. Vălean, Sz. Enyedi, "Software testing techniques", 2023, Risoprint Publishing, ISBN 978-973-53-3002-6

- O. Stan, M. Misaros, Sz. Enyedi, L. Miclea, "Introduction to system dependability - vol. 1", 2022, Ed. U.T.Press, ISBN 978-606-737-597-8
- Sz. Enyedi, A. I. Lengyel, L. Miclea, I. Ștefan, O. Stan, H. Vălean, "Development and testing of software applications vol. 1", 2014, Risoprint, ISBN 978-973-53-1319-7
- I. Ștefan, G. Moiş, Sz. Enyedi, L. Miclea, chapter title "A Load Balancing Algorithm for Multi Agent Systems", book title "Service Orientation in Holonic and Multi Agent Manufacturing Control", 2012, Springer, ISBN 978-3-642-27448-0.
- Sz. Enyedi, L. Miclea, I. Hoka, I. Popa, A. Gut, "Web Applications Development with Open-Source Tools" (in Romanian), Eikon, Cluj-Napoca, 2007, ISBN 978-973-757-054- 3, 167 p.

Papers in journals (20, 12 internationally indexed), selection:

- M. Misaroș, O. P. Stan, Sz. Enyedi, A. Stan, I. Donca, L. C. Miclea, "A Method for Assessing the Reliability of the Pepper Robot in Handling Office Documents: A Case Study", Biomimetics 2024, Volume 9, 558.
- Ovidiu Stan, Szilárd Enyedi, Cosmina Corches, Stelian Flonta, Iulia Ștefan, Dan Gota, Liviu Miclea, "Method to Increase Dependability in a Cloud-Fog-Edge Environment", Sensors 2021, Volume 21, Issue 14, 4714.
- Cosmina Corches, Mihai Daraban, Ovidiu Stan, Szilárd Enyedi, Liviu Miclea, "Interconnection of Systems with Cloud-Fog-Edge architectures: Concept and Challenges", Control Engineering and Applied Informatics Journal, 2021, Volume 23, Number 1, ISSN 1454- 8658, pp. 60-71.
- Szilárd Enyedi, Liviu Miclea, Iulia Ștefan, "Increasing Systems' Availability through Agents and Reconfigurable Systems", Journal of Automation, Computers, Applied Mathematics, ISSN 1221-437X, vol. 17, no. 4, 2008, pp. 588-592.
- Liviu Miclea, Szilárd Enyedi, Paolo Prinetto, Alfredo Benso, "Agent-Based Test and Repair of Distributed Systems", Journal of Embedded Computing, Volume 1, Number 3/2005, pp. 405-414, IOS Press Amsterdam, ISSN 1740-4460, abstracted io-port.

Conference papers (41 papers: 7 as first author, 22 indexed in Clarivate Web of Science), selection:

- Szilárd Enyedi, "On the Feasibility of Deep Learning Classification from Raw Signal Data in Radiology, Ultrasonography and Electrophysiology", 2024 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR).
- Szilárd Enyedi, "Electric Cars - Challenges and Trends", Proceedings of AQTR 2018, Cluj-Napoca, Romania, May 24-26, 2018, ISBN 978-1-5386-2205-6, pp. 399-406.
- Szilárd Enyedi et al., "Connected Visualization Service in a Water Management System", Proceedings of AQTR 2016, Cluj-Napoca, Romania, May 19-21, 2016, ISBN 978-1-4673-8690-6, pp 125-129.
- Silviu Folea, Szilárd Enyedi, Liviu Miclea, "Reconfigurable Test Platform for Modular Embedded Systems in Manufacturing Processes", Proceedings of IDT 2015, Dead Sea, Jordan, December 14-16, 2015.
- L. Miclea, Enyedi Sz., G. Todorean, A. Benso, P. Prinetto, "Agent Based DBIST / DBISR and its Web / Wireless Management", International Test Conference 2003, Charlotte, NC, USA, September 30 - October 2 , 2003, ISBN 0-7803-8106-9, ISSN 1089-3539, pp. 952-960, "Award of Excellence".

● **PATENT**

Patent

- L. Miclea, D. Sauciuc, O. Stan, I. Paun, C. Dehelean, Sz. Enyedi, I. Ștefan, "Patient's Electronic Health Record at national level and the method of its realization", reg. A/10033/2010, Bucharest, Romania.

● **CO-ORGANIZER OF INTERNATIONAL CONFERENCES**

Co-organizer of international conferences

- IEEE Automation, Quality and Testing, Robotics AQTR, Cluj-Napoca, Romania, every year since 2002, <https://www.aqtr.ro>
- IEEE International Conference on System Theory, Control and Computing 2025, Cluj-Napoca, Romania, <https://icstcc2025.utcluj.ro/>
- Design and Diagnostics of Electronic Circuits and Systems 2019, Cluj-Napoca, Romania, <https://www.lirmm.fr/ddecs2019/>
- ETS 2015, Cluj-Napoca, Romania, 2015, <http://www.ets15.ro>
- ACSC 2009, Cluj-Napoca, Romania, 2009
- IFAC ICPS, Cluj-Napoca, Romania, 2007, <http://conference.utcluj.ro/icps07/>

● **AWARDS**

Awards

- L. Miclea, D. Sauciuc, O. Stan, C. Dehelean, Sz. Enyedi, I. Stefan, Diploma of Honor for the patent application "Patient's Electronic Health Record and its Creation Method", Inventica 2011, Iasi, Romania, 8-10 June 2011.
- L. Miclea, D. Sauciuc, O. Stan, C. Dehelean, Sz. Enyedi, I. Stefan, Gold Medal for the patent application "Patient's Electronic Health Record and its Creation Method", Euro Invent exhibition, Iasi, Romania, May 2011.
- Enyedi Sz., IEEE Computer Society "Certificate of Appreciation", Santa Cruz, CA, USA, May 2009.
- Enyedi Sz., IEEE-TTTC "Gerald W. Gordon Award", Santa Clara, CA, USA, November 2006.

● **REVIEWER**

Reviewer

For 17 publications - one ISI indexed journal, 13 ISI indexed conference volumes, 3 other internationally indexed conference volumes, selection:

- IEEE Automation, Quality and Testing, Robotics AQTR, Cluj-Napoca, Romania, 2006-2024, <https://www.aqtr.ro>;
- International Conference on System Theory, Control and Computing CSTCC 2017, 2018 and 2019, Sinaia, <http://icstcc2019.cs.upt.ro>;
- European Test Symposium ETS 2009, 2012-2017 and 2019, <http://www.ieee-ets.org>;
- Asian Test Symposium ATS 2016, <http://www.ieee-ats.org>;
- Design & Technology of Integrated Systems in Nanoscale Era DTIS 2014, <http://www.dtis2014.teiath.gr>;
- International Conference on Social Eco-Informatics SOTICS 2013-2014, <https://www.iaria.org/conferences2014/SOTICS14.html>;
- IADIS Web Based Communities WBC 2011-2014, <http://www.webcommunities-conf.org>;
- Journal of Control Engineering and Applied Informatics CEAI, Bucharest, Romania, <http://www.ceai.srait.ro>, ISSN 1454-8658, 2010;
- IEEE VLSI Test Symposium 2009, Santa Cruz, California, USA, <http://www.vlsisymposium.org/Past/09web/>.

● **ORGANISATIONAL SKILLS**

Organisational skills

Organisational skills, acquired through co-organization of international conferences, research projects and as coordinator/consultant of diploma, dissertation and doctoral theses.

● **COMMUNICATION AND INTERPERSONAL SKILLS**

Communication and interpersonal skills

- Leadership and teamwork skills, acquired through coordination and participation in national and international projects.
- Communication and public presentation skills, acquired through teaching activities and participation in conferences and public events.