RICHÁRD SZABÓ

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EDUCATION

Budapest University of Technology and Economics (BME) *Feb 2022 - present*
Computer Science PhD
Topic: Model-based design of dependable CPS

Budapest University of Technology and Economics (BME) *June 2021*
MSc in Computer Science Engineering
Critical Systems major and Intelligent Systems minor
Thesis: Model-based techniques for the development of critical CPS (in hungarian)

Budapest University of Technology and Economics (BME) *June 2019*
BSc in Computer Science Engineering
System Engineering major
Thesis: Integrated monitoring of critical cyber-physical systems (in hungarian)

János Bolyai Technical School *May 2015*
IT Technican
(Hungarian National Qualification Registry - 54 481 05)

EXPERIENCE

BME, Critical Systems Research Group February 2022 - present
Teaching Assistant

- System Modeling, BSc Course, Practice seminars
- Systems Engineering, BSc Course, Lecture, Practice seminars
- Systems Engineering Laboratory 1, BSc Course, Static Analysis Laboratory
- Systems Engineering Laboratory 2, BSc Course, Profiling Laboratory
- Software Development Laboratory 2, BSc Course, Profiling Laboratory
- Cyber-Physical Systems, MSc Course, Educational materials

BME, Center for University-Industry Cooperation February 2022 - present
Research Assistant

- Working on Model-based Systems Engineering (MBSE) related research and development

Quanopt, Ltd February 2019 - January 2022
Software Engineer

- Lead Developer - Industrial R&D project for aiding manufactoring design
- Lead Developer - Safety analysis of critical railway hardware
- Lead Developer - Extracting facial features from videos for data analysis
- Developer - Data analysis on railway trafic data
- Developer - Data analysis on financial data
- Developer - Load test on financial application
- Direct communication with clients
- Supervisor of two interns
- System administrator

BME, Critical Systems Research Group   March 2018 - June 2021

Research during education

· Industry 4.0 competence center demonstator (greenhouse)
· Conference presentation: "Design and Implementation of a Dependable, Smart CPS Demonstrator"
· Demonstrator for dependable edge-based cyber-physical systems

TECHNICAL STRENGTHS

Programing Languages	Python, Java, R, C++
Databases	MongoDB, MsSQL, Neo4j
Tools	Git, Eclipse, VS Code, JetBrains
Technologies	Data-Distribution Service (DDS), Eclipse Modeling Framework (EMF)

PUBLICATIONS

Minisymposium of the Department of Measurement and Information Systems   2022

Richárd Szabó, András Vörös: "Dependability Modeling of Cyber-Physical Systems in the Gamma Framework"

Latin-American Symposium on Dependable Computing   2021

Simon József Nagy, Richárd Szabó, Máté Levente Vajda, András Vörös: "Demonstrator for dependable edge-based cyber-physical systems"

European Dependable Computing Conference   2021

Richárd Szabó, András Vörös: "Towards formally analyzed Cyber-Physical Systems"

Students' Scientific Conference   2020

Nándor Lengyel, Richárd Szabó, Jenő Szalontai, Imre Kocsis, András Vörös: "Model-driven deployment of semantically supported, edge-based critical CPS"

AWARDS AND SCHOLARSHIPS

Young Lecturer of the Department   2022

Award given by the Schnell László Foundation to a selected young lecturer of the Department of Measurement and Information Systems.