Pouya Mohammadi

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Professional Interests

Robotics and machines learning post-doctoral researcher currently working in the Institut für Robotik und Prozessinformatik at Technische Universität Braunschweig. My main activities right now are mostly dedicated towards model based design and domain specific languages for optimization problems robot and control. Some of my expertise are,

Robotics Years of experience in robot motion planning and control, simulation, real-time/non real-time components. I am also familiar and have theoretical and practical experience with many industrial and research platforms.

Machine Learning In depth familiarity with modern machine learning and AI techniques as well as understanding of neural networks. I also have supervised several master's theses in machine learning and physical-AI.

Software dev. and programming Experienced in software development for real-time safe robotic applications, as well as programming in machine learning field. I am involved in creating domain specific languages in robotics.

Education

PhD in ***Context Aware Body Regulation of Redundant Robots*** 2015 – 2019

- From the Institut für Robotik und Prozessinformatik at Technische Universität Braunschweig
- and Cor-Lab at Universität Bielefeld

Master of Science in ***Artificial Intelligence and Robotics*** 2010 – 2013

- From the Robotics Lab at the department of automation and informatics at Sapienza University of Rome, Italy.
- Averaged score of 110 out of 110.

Bachelor of Science in ***Computer Science*** 2003 – 2008

- Shahid Bahonar university of Kerman, Iran, plus an Associate degree in Software engineering
- Ranked 45^{th} among more than 10,000 applicants in the university entrance exam.

Academic and Industrial Work Experiences

I have worked on two large scale EU projects:

CMCI, an integrated technical project of **RobMoSys** Oct 2019 – now

- Creating composable domain-specific (meta-)models and languages for optimization problems
- Domain expert in compliant interaction for multi-robot assembly scenarios

CogIMon, Horizon 2020 Feb 2015 – May 2019

Step-changes in human-robot interaction toward the robust and dependable interactions *teams* of humans and robots,

- Active role in technical coordination as the project was led by Technische Universität Braunschweig
- Responsible for robotic experiments and related work-packages
- Member of CogIMon lead developers team responsible for CogIMon's full software stack

I also carry few years of work experience in industry. A employer:

Research and Development at ***Eastcool, CO.***, Iran 2008 – 2010

- Major producer of household and industrial electric appliances
- Responsibilities mostly aligned with automation of industrial processes and prototyping for the production
- Practical knowledge about different types of sensors, drives and pneumatic systems.

Technical Proficiency

Programming C/C++, Java, and python (under Linux/MacOS/Windows), version control and CI/CD

Robotics OROCOS/ROS/RSB, real-time control, simulations, familiar with several platforms

Machine Learning Theoretical and practical knowledge in Matlab, familiar with TensorFlow and PyTorch

Misc Jetbrains' meta programming system, 3D CAD design, micro controllers, OpenCV, general industrial knowledge

Miscellaneous

Mentoring, Supervision and Teaching

- Leading group of post graduate students for large scale robotic experiments
- Supervising several master's thesis in machine learning and robotics
- Tutoring lectures of robotic I and II, and AI programming optimization at different levels

Language Proficiency

I am fluent in **English** and **Italian**, hold a B1 degree in **German** and still learning. My mother tongue is **Persian**.

References

- Prof. Dr. Jochen Steil, the chair of robotics at TU-Braunschweig, j[dot]steil[at]tu[dash]bs[dot]de