Ayberk Sadic

Mechanical Engineer & Robotics Specialist
Institute of Science Tokyo, PhD Candidate
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Location: Tokyo, Japan
Date of Birth: 11/11/1992

Work Experience

Founder & Systems Architect Jan. 2018 – Feb. 2024
Mekadermis LLC. Istanbul, Turkey

- Delivered customized robotics and automation solutions to industrial clients.
- Led R&D for the development of a vibrotactile haptics entertainment device for PCs and mobiles.
- Kinematics & inverse dynamics analysis of mechanisms, mechanical design, prototyping, and testing.
- Control system design and implementations for robotic & mechatronic systems.
- Embedded systems and scalable electronics PCB design and development
- Managed a team of engineers and coordinated product development cycles using SCRUM/Kanban
- Presented financial reports and supervised technical roadmaps to stakeholders and investors.
- Oversaw P&L, corporate performance, and budget planning for long- and short-term strategies.

Research & Teaching Assistant Aug. 2016 – Jan. 2018
Koç University - Robotics & Mechatronics Laboratory Istanbul, Turkey

- Conducted research on Robotics, Haptics, and Human-Machine Interaction.
- Lectured in Control Systems Design and Bachelor's Thesis Courses

Education

PhD Candidate (Current) | ***Mechanical Engineering*** Apr. 2022 – Mar. 2027
Institute of Science Tokyo, Mechanical Systems Design Laboratory Tokyo, Japan

Master of Business Administration ***GPA: 3.88*** Sep. 2019 – Mar. 2023
Galatasaray University Istanbul, Turkey

Bachelor of Science | ***Mechanical Engineering GPA: 3.15*** Sep. 2011 – Jun. 2016
Middle East Technical University Ankara, Turkey

Skills

Languages: English (TOEFL IBT: 109/120 - TOEIC L/R: 980/990), Japanese (Conversational), Turkish (Native)
Programming: Python, C/C++, MATLAB, SQL
Platforms & Tools: ROS, OpenCV, PyTorch, Git, Docker, Linux, USB, Bluetooth, AWS, VPS, Nvidia Jetson, Raspberry Pi, ATmega, PIC, STM, ARM, XBee
Software: Autodesk Inventor, Solidworks, MATLAB & Simulink, EAGLE, Anybody Modelling System
Tech Skills: Mechanical Design & Analysis (CAD/CAM/CAE), Controller Design, Electric Motors, Pneumatic & Hydraulic Actuators, Sensors, LIDAR, Depth Cameras, AI/ML, Object Detection & Recognition, SLAM, Perception-Driven Robotics, CI/CD, Network Communication (TCP/UDP), PCB Design, Embedded Software Design, Biomechanics, Motion Capture, Haptics, Data Science

Selected Projects and Research

Biomechanical Research on Human Spine and Assistive Medical Robots 2023-Now
PhD Research Field - Institute of Science Tokyo

Effects of Financial Anxiety and Financial Literacy on Mental Accounting Processes 2021-2023
Master's Thesis - Galatasaray University

MIDAS Haptic Feedback Platform and Scalable Vibrotactile Actuators 2018-2021
Funded by Scientific and Technological Research Council of Turkey

Selected Conferences and Presentations

Exploration strategies for tactile graphics displayed by electrovibration on a touchscreen
Sadia, B., Sadic, A., Ayyildiz, M., & Basdogan, C. (2012) International Journal of Human-Computer Studies, 160, 102760.

Haptic Perception of 2D Equilateral Geometric Shapes via Electrovibration on Touch Screen
Sadic, A., Ayyildiz, M., & Basdogan, C. (2017) 21st National Biomedical Engineering Meeting (BIYOMUT), i–iv.

Development of a Human Trunk Exoskeleton with Pneumatic Artificial Muscles
Sadic, A., Ohno, A., & Suzumori, K (2015) JSME ROBOMEC 1A1-P01