Majid Azizi

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Project Experience

Intent-Driven Multimodal Humanoid Arm — Mälardalen University
Group Project - Advanced Embedded Systems — *Aug 2025 – Jan 2026*

- Designed and built the electrical backbone of a bionic arm, combining EMG-based intent detection, computer vision, and adaptive grasping
- Designed and implemented a four rail power distribution unit (12V, 7.4V, 6V, and 5V) supporting 10 actuators and 5 distributed nodes
- Helped design the architecture of the distributed CAN-bus communication network connecting ESP32-C3 nodes with a Jetson AGX Orin computing platform
- Led hardware-level system integration, including power integrity and physical-layer communication reliability
- Diagnosed and root-caused system-level communication failures linked to power-domain interactions and reverse current propagation

Low-Cost Sign Language Interpretation Glove — Mälardalen University
Group Project - Sensor Technology — *May 2025 – May 2025*

- Built a sensor-based glove for American Sign Language alphabet recognition using low-cost components as alternatives to expensive flex sensors
- Fabricated the physical glove prototype, including all soldering and sensor assembly
- Integrated LED–photodiode bend sensors, Hall effect sensors, and accelerometer onto a wearable form factor
- Supported hardware debugging and iterative design under tight budget and time constraints

Facial Emotion Recognition for Elderly — Mälardalen University
Group Project - Applied AI — *Apr 2024 – Jun 2024*

- Investigated age bias in facial emotion recognition (FER) and improved performance on elderly faces via diverse dataset fine-tuning
- Combined three datasets (FACES, RAF-DBt, Tsinghua) into a unified FER dataset of 16,399 images, split into train 70%, validation 15%, and test 15%
- Improved validation accuracy to 97.6% from a 75.15% baseline through training strategy and dataset diversification
- Set up the ML workspace and infrastructure for the Poster++ model (training pipelines, preprocessing, experiment tracking), enabling reliable training and evaluation for the team

Work Experience

TechBuddy — Stockholm
Customer Support Manager — *2019 – 2020*

- Started as a support representative and got promoted to department lead based on identified workflow improvements
- Redesigned customer support processes, improving efficiency for both customers and the team

Elgiganten — Stockholm
Sales Associate — *2017 – 2019*

- Responsible for customer needs analysis, product recommendations, and department management including inventory, and team well-being

Extracurricular — Västerås
Leadership Experience — *2021 – 2024*

Chairman for LTD (Robotics Student Association), **Vice-President** in the Student Parliament (Kårfullmäktige), **Board Member** of Mälardalen Student Union, and **Student Representative**

Education

Mälardalens Universitet — Västerås
M.Sc. Robotics Engineering — *2021 – Present*

Technical Skills

Programming: Python, C/C++, C#, MATLAB, VHDL

Embedded Systems: Raspberry Pi, Arduino, ESP32, FreeRTOS, CAN bus, UART, I2C

Tools: Linux, Git, VScode, Visual Studios, SolidWorks, Fusion 360, KiCad