MARYAM ASGHAR

Goethestr. 2, 85386 Eching DE
Mobile: +49 15731086621 ;
mayramasghar@gmail.com;
https://github.com/mawvvii ;
www.linkedin.com/in/maryam-asghar/

EXPERIENCE

LION Smart GmbH — **Munich, Germany**

Mid-Level Embedded Software Developer and Scrum Master – Battery Management Systems — **June 2024 – Present**

- Led a customer project, fully programming and configuring the BMS modules, including safety-critical software for lithium-ion batteries.
- Designed and developed connection hardware; conducted **rest bus simulation using CANalyzer** for comprehensive system validation.
- Performed integration testing on NXP microcontrollers, ensuring robust operation in real-time environments using **CAN, I2C, and SPI** communication protocols.

Junior Embedded Software Developer – Battery Management Systems — **March 2023 – June 2024**

- Developed embedded software modules, including device drivers for **IVT-S, HSD MC33XS2410, EEPROM, and FLASH memory, using Embedded C.**
- Created functional specifications and software requirements in **Codebeamer**, and thoroughly documented the software development process.
- Conducted unit tests using **Tessy** and executed in-depth **integration tests** on the target hardware to ensure reliability and safety compliance.

Embedded Software Developer Intern – Battery Management Systems — **Sep 2022 – March 2023**

- Assisted in the design, integration, and testing of software functions in embedded systems for lithium-ion battery management.
- Developed **Python scripts** to optimize toolchains and improve overall software development processes.
- Collaborated closely with hardware development, algorithm development, and HiL testing teams to ensure seamless integration of software and hardware components.

Guardian Technologies Gmbh — **Düsseldorf, Germany**

Werkstudent in Embedded Systems

- Developed advanced hardware for Fire safety of GT Gmbh. — **March 2022 – May 2022**
- **PCB-Design** on **Ki-cad** and its implementation using **Voltera V-one** using an input Gerber file.
- Printing, Drilling, and Soldering of PCB's using Voltera V-one and then testing the created PCBs.
- Conducted hardware and software co-design of Joystick Motor control.
- Developed hardware prototype of the minimal value product as a proof of concept for investors.

Technische Universität Dortmund — **Dortmund, Germany**

Wiwi – Graduate Teaching Assistant for the Courses 'Embedded Systems' and '**Intro to Programming C++**' — **Sept. 2021 – March 2022**

- Support in the organization, implementation, and further development of both the courses.
- Delegated weekly assignments on **data flow models** (KPN, SDL, SDF), Petri Nets, **VHDL**, Integer Linear Programming, Programming, WCET & Scheduling in the course 'Embedded Systems'
- Assisted **30 Bachelor's students in understanding Advanced C++** topics such as Pointers, Recursion, Classes, Data Structures, Inheritance, and Virtual Methods.

ACADEMIC

Technische Universität Dortmund — **October 2020**

Automation and Robotics, Master's in Automation and Robotics- (Ongoing), **current GPA : 2.6** — **Dortmund, Germany**

Major : Cognitive Sciences and Robotics.

Bosch – Udacity Program July 2022 — **July 2022 – December 2022**

Data Engineer for AI Applications Nanodegree Program, Nano Degree — **Dortmund, Germany**

Subjects : Data Modelling, Cloud Data Warehouses , Spark and Data Lakes, Automate Data Pipelines, Message Passing

DHA Suffa University — **August 2015-June 2019**

Bachelor's in Electrical Engineering, GPA 3.86 (with **Distinction**), *A Control and Distribution of a Yaw Axis Wind Turbine*

Major : Power Engineering. — **Karachi, Pakistan**

PROJECTS

"Upper body control strategies of Nao Robots" — **Semester Project**

We have deployed different control strategies to test and record which strategy provides the fastest and safest response.

"Robust Multi-Stage Model Predictive Control" (2022) — **Advanced Process Control**

Controlling a 2D LTI system with a robust MPC with horizon 1 and 2. — (Additional Credit Project)

"Deep Learning Based MPC Control of Double Inverted Pendulum" (2021) — **Machine Learning**

Controlling and Stabilizing an double inverted pendulum using deep learning based on an **MPC model.** — (Additional Credit Project)

ADDITIONAL SKILLS AND EXPERIENCE

Languages: English (**C2- Level**), German (**B1-Level**)

Skills: C++, Embedded C, Python, Microcontroller Programming, RTOS, LabVIEW, Communication Protocols, Hardware Debugging Tools, Electrical Circuit Design, PCB Design, Simulink, MATLAB, GIT , Signal Processing, SQL, R, CPLEX.

PUBLICATIONS

"Mitigating Power Fluctuations for Energy Storage in Wind Energy Conversion System Using Supercapacitors" (2020) **IF: 3.5**

"Energy harvesting using kinetic energy of vehicles" (2020)

HONOURS AND AWARDS

Vice Chancellor's Honor List (4.0 GPA) – DHA Suffa University — **2016**

Dean's Honor List (greater than 3.5 GPA) – DHA Suffa University — **2015-2019**