



AHMAD HASSAN MIRZA

Master Thesis Student at Bosch GmbH



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Ahmad.hm2



https://github.com/ahmadhmirza/



13.10.1988



Pakistani



Work Experience

Jan 2020 - Jul 2020

Master Thesis - Robert Bosch GmbH, Stuttgart, Germany.

Design and development of an inter company software collaboration platform using Service Oriented Architecture and RestAPIs.

- Development of a platform which enables, offering tools and software as web services, using Flask-Python.
- ECU Base software build process migrated from monolithic to S.O.A.
- Development of a Machine Learning(ML) and Image Processing Service.

Jul 2019 - Dec 2019

Intern - Robert Bosch GmbH, Stuttgart, Germany.

Automation of ECU software build process for use in software sharing platform.

- Development of scripts, in python and batch, to automate the build process for ECU software.
- Proposed and successfully migrated the code base to modularized architecture to enable easier maintenance.

Jan 2019 - Jun 2019

Werkstudent - Fachhochschule Dortmund, Germany.

Project MoRoP (Mobile Robot Platform).

- Navigation controller and path planning using laser scanner, odometry, SLAM and ROS Navigation Stack.
- Development of an android app to map the surroundings of the robot using on-board laser scanner.

Nov 2013 - Jul 2014

Research Associate (Lab Engineer) - CIIT, Lahore, Pakistan.

Lab - Digital Electronics and Microcontrollers

May 2011 - Oct 2013

Software Quality Assurance Engineer - GVS, Lahore, Pakistan.



Education

Oct 2017 - Present

M.Eng Embedded Systems for Mechatronics - 1.7/4.0

Fachhochschule Dortmund, Dortmund Germany

Focus: Software development, Machine Learning for computer vision and image processing.

Aug 2014 - Jun 2016

Msc Micro and Nano Systems Technology

University College Of South East Norway

Focus: BioMEMS, Fabrication and Characterization of Lab-on-Chip devices.

Oct 2006 - Aug 2010

BSc Electrical Engineering

University of Central Punjab, Lahore, Pakistan.

Focus: Embedded systems and digital electronics.



Skills



Programming Languages

Python	●●●●●
Java	●●●●●
C/C++	●●●●●
Html	●●●●●
CSS	●●●●●
VHDL	●●●●●
Batch Scripting	●●●●●
XML	●●●●●



Tools & Libraries

Enterprise Architect	●●●●●
Android Studio	●●●●●
ROS	●●●●●
OpenCV	●●●●●
Tensor Flow	●●●●●
Matlab	●●●●●
Adobe Illustrator	●●●●●
Docker	●●●●●
OpenRTOS	●●●●●



Languages

Urdu	●●●●●	Mother Tongue
English	●●●●●	C2
German	●●●●●	B1



Publications

- **ITO-Free 3D MEMS Photodetector for Point-Of-Care Biosensing Devices.**
IEEE-NIH 2016 Special Topics Conference on Healthcare Innovations and Point-of-Care Technologies.
- **Comparison and Implementation of Open-Source Face Detection & Tracking Systems on Android Devices for use in home-based Speech Therapy - Poster**
BMT 2019 - 53rd Conference of the German Society for Biomedical Engineering (DGBMT within VDE).



Projects

- GUI based application for analysis of drone footage for automated driving- Using Python, PyQT (for GUI), Tensorflow and OpenCV.
- Project Avatar - Android application for lip reading using machine learning (tensorflow, OpenCV and dlib).
- Robot with maze navigation to reach the destination – using Embedded C (OpenRTOS).
- Architectural designing of “Autopilot Landing System” – using Enterprise Architect.
- “Follow Me” – Robots that follow an IR source, with convoy mode – using Arduino Uno.
- Implementaiton of serial comm. protocol on LatticeXP2/17E FPGA – using VHDL and Active-HDL for simulations.
- Implementation of several process scheduling algorithms for App4MC platform.



Hobbies

- Painting & Sketching.
- Road cycling.
- Volleyball & Tennis.
- Gaming.
- Reading up and experimenting with technology (softwares and libraries).



References

- Dipl.-Ing Martin Kisser | martin.kisser@de.bosch.com | +49 174 7354610
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- Prof. Dr.-Ing. Jörg Thiem | joerg.thiem@fh-dortmund.de | +49 (0231) 9112-9168
Professor, Steuer- und Regelungstechnik, Fachbereich Informationstechnik, Fh Dortmund, Germany.

