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Curriculum vitae

PERSONAL INFORMATION

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WORK EXPERIENCE

01/2020–07/2020 — Master Thesis Student

Robert Bosch GmbH, Stuttgart (Germany)

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

Overview:

- A look into software development, using Service Oriented Architecture(S.O.A) and DevOps in a large company.
- Development of a platform which enables, offering tools and software as web services.
- ECU Base software build process migrated from monolithic to S.O.A.
- Development of a Machine Learning(ML) and Image Processing Service.
- Gives user access to various ML services by simple API calls without any tool setup or extensive coding.

07/2019–12/2019 — Intern

Robert Bosch GmbH, Stuttgart (Germany)

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

Overview:

- Development of scripts, in python and batch, to automate the build process for ECU software.
- Enable software sharing between OEMs and Bosch.
- Proposed and successfuly migrated the code base to modularized architecture to enable easier maintenance of CI
- and CD pipeline for the software sharing project.

01/2019–06/2019 — Working student

Fachhochschule Dortmund, Dortmund (Germany)

Project MoRoP (Mobile Robot Platform).

Overview:

- Development of nav controller using laser scanner, odometery and ROS Navigation Stack.
- Development of a partner Android application to map the surroundings of the robot using on-board laser scanner.
- Path planning to navigate to a specified goal using the partner application.

11/2018–06/2019 — Research Assistant

Fachhochschule Dortmund, Dortmund (Germany)

Project Avatar.

Overview:

- Design and Development of an Android application capable of performing lip reading using only image processing.
- Research to identify optimum methods to solve the problem.
- Used dlib(cross compiled for android), Tensor Flow, Python and Android platform to develop the application.

11/2013–07/2014	**Research Associate (Lab Engineer)**

Comsats Institute of Information Technology, Lahore (Pakistan)

Responsible for conducting and designing lab experiments for Digital Electronics and Micro-controllers Lab for undergraduate program.

05/2011–10/2013	**Software Quality Assurance Engineer**

Gameview Studios, Lahore (Pakistan)

QA Engineer on various game development projects.
Overview:
- Writing and executing test cases.
- Took part in all the testing phases from development to release.
- Worked as concept design engineer with the graphics dev team on one of the projects.

EDUCATION AND TRAINING

10/2017–08/2020	**M.Eng Embedded Systems for Mechatronics**

Fachhochschule Dortmund, Dortmund (Germany)

Focus: Software development, Machine Learning for computer vision and image processing.
Academic projects' overview:
- 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.

08/2014–06/2016	**MSc Micro and Nano Systems Technology**

University College Of South East Norway. (Norway)

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

10/2006–08/2010	**BSc Electrical Engineering**

University of Central Punjab, Lahore (Pakistan)

Focus: Embedded systems and digital electronics.

PERSONAL SKILLS

Mother tongue(s)	Urdu

Foreign language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C1	C2
German	B1	B1	A2	A2	A2

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages - Self-assessment grid

Job-related skills

Programming Languages:

- Python
- Java
- C/C++
- html
- JS, batch & shell scripting

Tools and Libraries:

- ROS
- Enterprise Architect
- Android Studio
- OpenCV
- Tensorflow
- Matlab
- PyQt - GUI design
- Adobe Illustrator