Aamish Hussain

Graduate Student in Robotics

+49 1520 5893479
aamishhussain.inbox@gmail.com
www.linkedin.com/in/aamishhussain
44145 Dortmund, DE

Programming/Computing

Languages

Python, MATLAB
●●●●●○
C++, R
●●●●○○

Technologies

- ROS, Docker, Git, Gazebo
- Jupyter, Numpy, SciKit, Networkx
- Solidworks, Proteus,
- Linux,MS office

Languages

English – business fluent, C2
●●●●●○
Urdu, Punjabi – Native
●●●●●●
German – A2-B1
●●○○○○

Awards

Best Senior Project, NUST 2017

Merit Scholarship – 4 Semesters

Second Runner up – FICS 2017

Interests

- Long-distance running
- Swimming
- Tennis

EDUCATION

Technische Universität Dortmund, Germany **10-2020 – present**

M.Sc. Automation and Robotics

Robotics, Machine learning and Computer Vision

National University of Science and Technology, PK **2017**

Bachelors of Engineering, Mechatronics

Project Thesis: Slurry Deposition on Asperous Surfaces using 3D printers

CAREER HISTORY

Work Sabbatical **06-2019 – 08-2020**

- Preparation for National Civil Service Examination
- Independent skill development and voluntary consulting
- Appearance in standard examinations

Independent Project Work **09-2018 – 05-2019**

- Developed a low cost smart watch aimed for new users
- Developed core functionality with **BLE**, **CAD** and assembly.
- **PCB** design, sensor-actuator integration, digital display functionality

Research Assistant @ NUST-CEME **08-2017 – 07-2018**

- Utilized **Visual Odometry** to synchronize robotic arm with human head movement with functionalities in **MATLAB**
- **Modeling and Simulation** of the robotic arm in Simulink
- Literature review of state of the art approaches
- Development of **GUI** with **QT**

ACADAMIC AND COMMERCIAL PROJECTS

10-2021
04-2022

Race against the machine – demonstrated 5G teleoperation of race cars

- Modified **ORB-SLAM3** for integration to existing code base for self-driving. Utilizing **OpenCV** and **ROS** for **C++** used **Docker** containers to deliver a robust application.
- Contributed to **path following** set-up by utilizing modified pure-pursuit algorithm written in **python.** Tested the approaches in simulated environment in **gazebo** and **RVIZ.**
- Reviewed existing approaches for **self-driving cars** and wrote documentation

09-2016
09-2017

Slurry Deposition Printer for Asperous Surfaces

- Developed a **3D printer** capable of printing on objects having different sizes, shapes and surfaces.
- Contributed to development of process control GUI implement in **QT** and **python**
- Developed a system that takes a image converts it into **vector graphics**, is manipulatable in GUI and then can be converted into g-codes for GRBL and intern to CNC controls
- Was responsible for **debugging** of the whole the system comprising of mechanical, electrical and cyber elements.