AMEER HAMZAH

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LinkedIn:
https://www.linkedin.com/in/hamzafied/

GitHub:
https://github.com/a-hamzah

YouTube:
https://youtube.com/HamzaRobotics

Skills
- **ROS/ROS2**
- **Linux OS**
- **Gazebo**
- **Webots**
- **Git**
- **C++**
- **Python**
- **Machine Learning**
- **SLAM Algorithms**
- **Navigation Algorithms**

Robots Used:
- **Turtlebot3**
- **Turtlebot4**
- **Tello Drone**
- **Clover Drone**

Languages
- **English**
- **Urdu**

Hobbies
- **DIY Robotics**
- **Technology News**
- **E Gaming**

Profile
As an enthusiastic robotics and AI engineer, I'm looking forward to offering my skills to promote research or enhance a company's productivity. My training in robotics, AI, and programming has prepared me to excel in academia and industry equally. Additionally, I have experience as STEM and IOT instructor with renowned organizations like NAVTTC and Beaconhouse having demonstrated work experience in teaching.

Education
Masters in Robotics and Intelligent Machine Engineering, SMME, NUST (Ongoing)

Projects
- Developed a differential drive robot in Gazebo
  https://www.github.com/a-hamzah/diff_bot
- Developed a boundary following robot in ARGOS Multi Robot Simulator
  https://github.com/a-hamzah/boundry_following_bot
- Implemented SLAM using Turtlebot3 on ROS2 Humble using Nav2
  https://youtu.be/E5CmcuyjNOQ?si=tkuG1AK45rf_c-5L
- Ran simulation of e-puck open-source robot using ROS2 Foxy, Python, Visual Studio Code, Webots, Linux with the following scripts
  - ✓ Tested multiple python scripts to use range sensors, velocity commands
  - ✓ Deployed obstacle avoidance script
  - ✓ Deployed line follower python script

Bachelor of Electrical Engineering, UET Taxila, '15

Majors: Power System Protection, Renewable Energy Systems, Power Distribution

Employment History
Math & Robotics Teacher, Beaconhouse School System, Hafizabad
Apr '18 – Mar '22
- Taught Robotics and O Levels Mathematics
- Conducted STEM workshops in coordination with international organizations i-e codeclub.org & Raspberry Pi Foundation
- DIY kits and programming techniques using Scratch

Management Associate, PTCL, Gujranwala
Mar '16 – Dec '16
- Worked on Next Generation Networks (NGN) Switches
- Facilitated commissioning and testing of network elements by vendors.
- Monitored remote sites and supervised fault rectification.

INTERNSHIPS
Intern Engineer, Crescent Bahuman Pvt. Ltd., Pindi Bhattian.
Jan '16 – Feb '16
- Troubleshooting of AC/DC Drives

- Worked on the up gradation of multiple machines to the latest version of PLC & HMI
- Developed logical understanding of pressure switches, solenoid valves, limit switches, temperature sensors

Other Projects

Final Year Project

- Design and Development of Power Grid Synchronization Failure Detecting Trainer

Implemented a micro-controller based final year project to monitor undesired variations in voltage, frequency, and phase angle. Upon detection of an irregularity in any of the three parameters, it triggers a precautionary signal to disconnect the fault-stricken part.

DIY Kits Projects

Designed and coded:

- An ultrasonic distance measurement module using Arduino
- Automatic alarm bell timer using DS3231 and Arduino
- IOT webserver to control home appliances using ESP32
- Basic traffic lights project using Arduino
- Raspberry Pi NANO using command line

MSAGs Installation Project

- Conducted surveys to mark the location of equipment to be installed and facilitated installation
- Assisted vendor (Huawei, ZTE) in installing network equipment
- Ran diagnostic tests to ensure if the services were up to mutually agreed standards

Courses

SIEMENS PLC, HMI & SCADA Short Course

ROS2 Foxy with Webots (Soft Illusions, Youtube)

Robotics with Webots Specialization (Coursera) (In-progress)

Machine Learning Specialization (Coursera) (In-progress)

C++ and Python from freecodecamp.org

Leadership Skills Course from PTCL

Extra-curricular activities

Badminton