Mohammed Adib **Obaid**

EMBEDDED SYSTEMS ENGINEER

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Education

Technische Universität München (TUM)   *Munich, Germany*
MASTER OF SCIENCE IN COMMUNICATIONS ENGINEERING   *Oct. 2020 - PRESENT*

United Arab Emirates University (UAEU)   *Al Ain, UAE*
BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING   *Aug. 2016 - May. 2020*

Skills

Programming	C/C++, Python, VHDL
Electrical Engineering	KiCAD, Altium, Vivado, GHDL, STM & AVR MCUs, Soldering, Oscilloscopes, Digital Analyzers
Other	Linux, Bash/ZSH, REGEX, Photoshop

Experience

ABB Robotics   *Munich, Germany*
R&D ENGINEER - WORKING STUDENT   *Nov. 2021 - PRESENT*
- Development of internal tools.
- Maintaining the CMAKE build system.
- Maintaining Azure pipelines.

SmartRay   *Munich, Germany*
FPGA ENGINEER - INTERN   *Aug. 2021 - OCT. 2021*
- Implementation of an Approximated FIR Filter on FPGA.
- Implementation of simulation software in Python.
- Creation of an automated build system using Python and Make.

NavVis   *Munich, Germany*
ELECTRICAL ENGINEER - WORKING STUDENT   *Jan. 2021 - Jun. 2021*
- Created a GPIO interface for linux devices using FTDI's FT232H chip and PyFTDI.
- Supported the electrical engineering team by maintaining their codebase.
- Upgraded a tool to help the assembly team to test touch screens.
- Created a module that would parse the device's hostnames using regex.
- Improved a test rig that is used to test LIDAR scanners for angular jumps and missing layers.
- Created a Python API to abstract FLIRś SDK for high speed cameras.
- Created a live viewer for the camera feed to test out cameras using the API in Python.

United Arab Emirates University (UAEU)   *Al Ain, UAE*
UNDERGRAD RESEARCH ASSISTANT   *Jun. 2017 - Jun. 2020*
- Created a digital controller and data acquisition system for a smart power grid.
- Programmed a traffic monitoring system using OpenCV and YOLO that achieved 95% accuracy. (Paper)
- Created a neural network using TensorFlow for monthly water consumption prediction.
- Implementation of a bilateral filter using verilog.

National Space Science and Technology Center (NSSTC)   *Al Ain, UAE*
DIGITAL SYSTEMS ENGINEER - INTERN   *May. 2019 - Sep. 2019*
- Designed and synthesized a pseudo random number (PRN) generator for the SDR using Verilog.
- Created a simulation script to simulate the basic SDR functions and the modulator's behavior.
- Set up a small GPS tracking device as a demonstration for a summer camp held by the center.
- Created internal documentation and guides for FreeRTOS.
- Setting up the CI/CD pipelines.

Projects

- **Synthesis and implementation of the IDEA encryption algorithm using VHDL**
- **Serial Peripheral Interface (SPI) module implementation on FPGA using Verilog**
- **Tuneable Antenna Control and Multiplexing circuit**
- **Simulation of emergent behaviour of bird flocks using Python**
- **Power flow parameters calculator using Python**
- **2D procedural map generator using Python**
- **Class D audio amplifier**

Activities

UAEU programming contest
3RD PLACE

Al Ain, UAE
Apr. 2018

Peer tutor
PART-TIME JOB

Al Ain, UAE
2016 - 2018

Ethical hacking competition
1ST AND 3RD PLACE

Abu Dhabi, UAE
2015

- Used Linux based tools to generate reports about exploits in a target system.

Local mathematics Olympiad
1ST PLACE

Al Ain, UAE
2014

- A high school-level math competition between high schools across the country.

IT marathon
2ND PLACE

Al Ain, UAE
2013

- Designed and created a 3rd person shooter game in Unreal Development Kit (UDK) with a basic enemy AI and a small environment.

Browser based strategy video game
PERSONAL PROJECT

Al Ain, UAE
2012

- A web based real time strategy game built with PHP and Javascript with a friend.