Subhan Altaf

Mechatronics Engineering | Class of 2021 | University of Waterloo

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SKILLS

Hardware
Soldering
Oscilloscopes
ARM, FPGA
CMOS
UART, SPI, I^2C, BLE
Arduino

Software
C/C++
JavaScript, Python
Assembly
Bash, Shell
MATLAB, SQL

Coursework
Sensors & Instrument
  Analog Circuits
  Signal Conditioning
  MOSFETs
  Active/Passive Filter
  Op-amps
Power Electronics
  Transformers
  DC Machines
  P.E. Converters
Comp Architecture
Microprocessors
Real-Time Systems

Design
SolidWorks, Autocad
Sketch, proto.io
Laser cut, 3D print

ACTIVITIES

Power Systems Lead, Watonomous Team

Co-op Peer Leader for First Year Students

Engineering Councillor

Mentorship Director, Engineering Society

EXPERIENCE

Tesla | Firmware Program Manager
Jan '19 - Apr '19

JIRA, Git, Jenkins, Firmware Architecture, Board Bring-up

- Led 2 programs — seat controller bringup and firmware installation process change, latter significantly enhanced production throughput and reduced downtime
- Aligned stakeholders on project objectives and scope, analyzed and mitigated risks, facilitated cross-functional coordination, and led FW provisioning trials
- Guided decisions in board layout covering pinout, memory model, and peripherals

SAP | Software Product Manager
May '18 - Aug '18

Python, Javascript, SQL, Cloud, Microservices   ▷ Blogs   ▷ Code

- Developed prototypes, highlighting new, innovative capabilities of microservices architecture running on Python backend — topics covered included REST APIs, web security, voice user-interfaces, and geospatial data analysis
- Validated NodeJS and SQL courses for global SAP TechEd conference

Linamar | Software Developer
Sep '17 - Dec '17

Python, Git, SQL, VBA, SolidWorks, Shell

- Achieved 40% time reduction and significantly simplified process for writing work instructions with python scripts, integration tools, and automated updates

General Motors | Innovation Engineer
Jan '17 - Apr '17

C, Rapid Prototyping, Soldering, Arduino, Bluetooth   ▷ Video

- Applied lean design principles to rapidly prototype innovative solutions, test with users, and iterate over designs for 3 new features — prototypes ranged from physical circuits to mobile or in-car applications

PROJECTS   ▷ View All

Obstacle Course Robot
▷ View Project

Sensors (Hall Effect, Thermistor, Encoder), Filters, Soldering, C

- Built robot to follow a track and perform LED tricks with varying magnetic field
- Designed and soldered circuits for encoders, magnetic sensing, and thermal sensing

Real Time Operating System
▷ View Project

C, Assembly, ARM Cortex-M3, Multithreading

- Designed fixed-priority preemptive scheduler for Keil NXP LPC1768, implementing memory locks, context switches, memory allocation, and task handling

IoT Medical Assistant | 3rd Place, McGill Hacks 2018
▷ View Project

C, I^2C, NodeJS, Particle Electron Board, Accelerometer

- Developed wearable to detect medical emergency and connect user to doctor
- Collected temperature and accelerometer data, shared with doctor over web sockets