

# HARRIS MOHAMED

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## EXPERIENCE

Kratos | RT Logic

System Software Engineering Intern

May 2020 – August 2020

Remote

- Wrote a thread-safe queue in C++ to acquire and parse RF packets

System Design/Architecture Engineering Intern

May 2019 – August 2019

Colorado Springs, Colorado

- Developed a testing suite for a real-time UI written in Angular JS
- Helped fix a narrow bandwidth, high-speed FPGA-based digitizer
- Learned theory of passive ranging algorithms for Space Situational Awareness

Continental Automotive

Embedded Software Intern

May 2018 – August 2018

Deer Park, Illinois

- Added a diagnostic troubleshooting mode for a car that uses a CAN-FD network
- Fixed a malfunctioning watchdog timer on an ARM-based microcontroller

## PROJECTS

Sentinel

Undergraduate Research Project – TiM \$10K Challenge

August 2019 – March 2020

Urbana-Champaign, Illinois

- Robot designed for a contest to apply a LIDAR sensor in a unique way
- Researched, designed, and developed a robot capable of transforming 2D distance data to accurate 3D coordinates
- Created an Electron App to view the LIDAR data in an aesthetic manner

HackMe

HackIllinois - UIUC Annual Hackathon

February 2019

Urbana-Champaign, Illinois

- Proof of concept for noninvasive EEG wave capture
- Interfaced a 24-bit ADC to capture brain impulses and utilized databases for parsing and post-processing
- Winner of Caterpillar and Particle Design Awards

Project LD

ECE 385 Final Project

April 2019 – May 2019

Urbana-Champaign, Illinois

- Dynamic, FPGA-based matchmoving 2D motion tracker
- Interfaced a camera, mouse (to choose bounding box), keyboard (tracker settings), and VGA (output image)
- Demonstrated by tracking a ping-pong ball
- Became an Undergraduate Assistant for the course, assisting groups in labs and holding office hours

## EDUCATION

B.S. in Computer Engineering

University of Illinois at Urbana-Champaign

August 2017 – May 2021

Expected graduation: May 2021

## COURSEWORK

- ECE 408 – Parallel Programming
- ECE 448 – Artificial Intelligence
- ECE 391 – Operating Systems
- ECE 310 – Digital Signal Programming
- ECE 385 – FPGA Programming
- ECE 498 – Internet of Things

## CLUBS

Illini Formula Electric

University of Illinois at Urbana-Champaign

August 2017 – Fall 2018

- Data Acquisition and Quantitative Analysis lead – Developed a datalogging system for an all-electric style racecar

## SKILLS

- Main Development Languages

x86 Assembly

C

C++

Python

CUDA

System Verilog

- Debugging/Version Control

Git

GDB

Valgrind

- Web Dev

HTML / CSS

Javascript

WebSockets

- Development Boards

Raspberry Pi

STM32 Blue Pill

Arduino

- Hardware – Microcontroller

ST-ARM Cortex MCUs

Atmel-AVR

- Development Tools – CAD

Altium

Eagle

Autodesk Inventor

- Development Tools - Creative

Blender

Unreal Engine

Premiere Pro

After Effects