

WORK EXPERIENCE

Applications/Marketing Engineer | Microchip Technology

CURRENT, FROM JUN 2022 (FT)

- Developed various demos on PIC and AVR microcontrollers.
- Wrote production-quality embedded C code for customers to use as reference.
- Developed microcontroller libraries for abstracted use.
- Created PCBs and structural enclosures for the demos.
- Led an analytics initiative that produced to better data-driven decisions about our marketing campaign strategies.

Electrical Engineer | United States Naval Research Laboratory

JUN 2017 - JAN 2022 (FT/PT)

- Used python for various machine learning and data analytic projects such as:
- Detecting and classifying objects in satellite imagery.
- Recovering RF communications lost to noise (BRNN w/ GRU cells.)
- Identifying promotor sequences in DNA to speed-up genome sequence identification (BRNN w/ LSTM cells.)

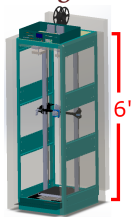
Prototype Engineer | Booth Oil and Gas LLC.

SEP 2016, JUN 2022 (FT/PT)

- Designed and manufactured prototypes for novel business problems (see 3D PEEK Printer, AI-Driven Security System).
- Offered technical expertise for project planning, cost estimation, and feasibility studies.
- Communicated with the client to manage their expectations and incorporate or remove features as their needs changed.

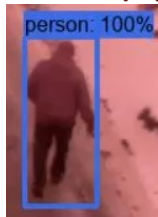
EMBEDDED DEVELOPMENT PROJECTS

DMX Light Show %



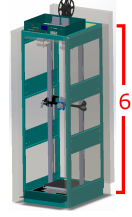
A real-time audio processing light show highlighting the flagship features of the PIC18Q71 microcontroller.

AI-Driven Security System %



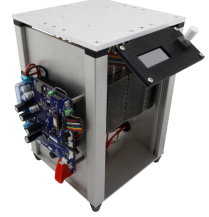
AI-driven solar-powered security system that gives real-time alerts with a classified video anytime a human, vehicle, or large animal is spotted on the property.

3D PEEK Printer %



Large-scale 3D printer capable of printing PEEK for bio-fuel refinement.

The Cold Plate %



A reference design showing the most efficient way to perform common microcontroller tasks on a PIC16; It is Microchip's most copied code repository.

PUBLICATIONS

- 2023 App. Note 4889: Using Core Independent Peripherals (CIPs) to Implement a Peltier Cooled Metal Plate %
- 2023 Embedded.com - Reducing BOM cost in embedded systems using advanced MCU peripherals %
- 2018 Machine Learning in Radio Frequency Communications %
- 2017 Prediction of Bacterial Promoter Sequences using Machine Learning %

EDUCATION

- 2018-2022 **Computer Engineering; Mathemtics minor**
SUMMA CUM LAUDE; 3.98 GPA; COMP ORG SI
Bachelors of Science
Shippensburg University of Pennsylvania

AWARDS

- 2020 Secret Security Clearance (inactive Mar 2022)
- 2018 Eagle Scout
- 2017 CompTia A+ Certified