

Ajin Sunny

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GitHub: github.com/ajinsunny

Leetcode: leetcode.com/4j1n/

TECHNICAL SKILLS

- Software:** Python, C++, C, MATLAB, Embedded Linux, JavaScript, SQL, PHP, HTML5, CSS3, Git
- Hardware:** ARM, Arduino, ESP8266, DAC, SPI, I2C, Magnetics, SolidWorks, Autodesk Fusion, CNC

WORK EXPERIENCE

University of Kentucky | Embedded Software Engineer, Graduate Research | Lexington, KY Jan 2018 - Dec 2019

- Designed and manufactured an Electromagnetic system for small satellite formations projects using an experimental testbed that demonstrated formation control using SolidWorks and Autodesk Fusion.
- Implemented a decentralized control algorithm to set the relative position and velocity of the electromagnetic actuation system using ToF LiDar sensors, C++, and Arduino.
- Created sinusoidal actuation of electromagnetic coils using digital signal processing, I2C, and SPI protocols to set relative position and velocity control of the electromagnetic system utilizing Arduino.
- Calibrated and analyzed 100+ experimental data sets using Python, MATLAB, and Git version control systems to demonstrate that decentralized control algorithms could control small satellite velocity and position.

University of Kentucky | Mechanical Engineering, Graduate Teaching | Lexington, KY Aug 2017 - May 2018

- Assisted 2 professors for grading homework assignments for 95+ students for 2 semesters; tutored students for a 1-on-1 session on controls engineering courses.

University of Kentucky | Electrical Engineer | Lexington, KY Aug 2013 - Aug 2015

- Tested new silicon-based solar array that replaced previous generation of solar arrays of the solar car using a digital multimeter, oscilloscope, MS Excel, and Python, producing over 50% higher power output.
- Prototyped 50+ PCBs for the Battery Management System (BMS) of the car utilizing soldering equipment.
- Performed data acquisition such as battery temperature, battery voltage, battery current, and maximum power point using CAN bus, power electronics, and Python.

EDUCATION

Master of Science in Mechanical Engineering, *University of Kentucky* Dec 2019

Bachelor of Science in Electrical Engineering, *University of Kentucky* May 2017

PROJECT WORK

Education - Google AI | Machine Learning Engineer 2020

Online Learning platform for anyone to learn the fundamentals to develop Machine Learning skills.

- Completed Machine Learning Crash Course with TensorFlow APIs to develop machine learning projects.
- Developed skills such as Image Classification, Transfer Learning, NLP: Tokenization and Embeddings and Recurrent Neural Networks(RNN), Convolutional Neural Networks(CNN).

Codecademy Data Science | Data Scientist | [live](#) 2019

Online Data Science program for Python developers to learn within a community of Software Engineers.

- Pursued foundational data science and data visualization concepts to understand machine learning.
- Visualized World Cup data using Matplotlib and Python's Seaborn packages to gain insights on football trends.
- Compared survey responses of election results with actual results using Numpy to determine the variance.

KRUPSComm | Electrical Engineer 2016

Low-cost radio communication system for atmospheric re-entry capsule prototype.

- Collaborated on a team of 2+ electrical engineers to develop radio communication protocol through researching different signal modulation techniques, resulting in over 80% signal transmission throughput.

LEADERSHIP + AWARDS

Graduate Assistantship, *University of Kentucky* 2017

IEEE 24 hour Extreme Competition, *University of Kentucky* 2014

IEEE Student Paper Competition, *University of Kentucky* 2013