ZOLTAN CSAKI

WEBSITE PORTFILIO: *HTTPS://Z01IC.GITHUB.IO*

ZCC6@CORNELL.EDU

(607) 280-0335

— EDUCATION —

Cornell University, College of Engineering, Computer Science Major, Electrical Computer Engineering Minor (GPA 3.79) May 2022

Lansing High School (GPA 94.5) June 2018

— WORK EXPERIENCE —

MEZMERIZ, SOFTWARE ENGINEERING INTERN JUNE - AUGUST 2020

- Wrote software to display and interact with LIDAR point cloud scans using Typescript, Python, Angular, HTML, CSS and Potree
- Loaded data over HTTP while displaying the progress to users, mocked data loading to run locally with NodeJS
- Created a feature with a team allowing users to begin a comment thread by clicking on a point in a 3D rendering

KIONIX, SOFTWARE ENGINEERING INTERN JUNE - AUGUST 2019

- Created a demo with a Kionix accelerometer mounted on a slot car and made a dashboard to display sensor applications
- Analyzed sensor data for terrain detection, driver profile, g-force monitoring, and velocity measurement
- Improved data-sheet search on kionix.com; fixed retrieval by product name, updated SQL database, created a table to view and filter products
- Updated and added pages to the Kionix website using HTML

CORNELL UNIVERSITY, INTRODUCTION TO PYTHON CONSULTANT AUGUST 2019 - MAY 2020

- Ran discussion section, helped students with online labs, tutored students during one on one consulting hours
- Graded projects and exams on topics including object oriented programming, recursion and loop invariants

— LEADERSHIP AND ACTIVITIES —

CORNELL CUP ROBOTICS, LEAD SEPT 2018 - NOW

2020-2021: Elected CS team lead. Responsible for coordinating 14 software engineers working on chatbot, path-planning and object detection
- Implemented code review pipeline with pull requests, set goals and deadlines, led collaboration with other sub-teams

2019-2020: Programmer for an autonomous navigation sub-team, implemented simulations to plan autonomous paths with smoothing
- Used LIDAR, infrared, ultrasonic indoor GPS and encoders to detect objects, map out a virtual environment and plan paths

2018-2019: On the electrical and computer engineering team, developed robotics kits for kids using a custom a PCB, Raspberry Pi and Arduino
- Created universal one plug connections using RJ-12 cables for robotics electronics, programmed and wired a line-following Mini-bot

FTC ROBOTICS TEAM, PRESIDENT SEPT 2015 - JUNE 2018

- Team lead junior year, and head programmer senior year. Worked with Java, sensors, 3D modeling and mechanical design
- Wrote code and submitted documentation that won the Control Award For Autonomous Design for writing an algorithm that uses gyroscopic and encoder data to correct estimated positional error using the law of cosines

— PROJECTS —

ELECTION PREDICTION, MACHINE LEARNING DECEMBER 2020

- Used Pytorch to implement a graph convolutional neural net that predicted county election results based on population demographics

SETTLERS OF CATAN, FUNCTIONAL PROGRAMMING DECEMBER 2019

- Programmed the board game Settlers Of Catan from scratch using OCaml, used ASCII art and mouse clicks in terminal, won TA Choice Award

CORNELL MAKE-A-THON, CUSTOM PAINT MIXING FEBRUARY 2019

- Designed a device that allows users to select any RGB valued color, and makes that exact shade of color by autonomously mixing paint
- Created a GUI to select a color, then send data to an Arduino script that used servo motors to open paint valves for various time intervals and mix

— SKILLS —

Proficient: Python, Typescript, C, Embedded Programming, Sensor integration, Source Control, Code Review Process
Familiar: Java, Pytorch, Angular, OCaml, Javascript, SQL, HTML, Arduino, Raspberry Pi, Circuitry

— COURSES —

Algorithms, Introduction to Machine Learning, Principles of Large Scale Machine Learning*, Artificial Intelligence*, Computer Vision*, Functional Programming, Operating Systems and Practicum, Object Oriented Programming and Data Structures, Discrete Structures, Embedded Systems, Digital Logic and Computer Organization, Electromagnetic Fields and Waves, Signals and Information*, Linear Algebra, Differential Equations, Multivariable Calculus, Introductory Operations Research, Physics II: Electromagnetism, Physics 1: Mechanics and Heat

* Currently enrolled