**Tyler Bisk**

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**EDUCATION**

**Cornell University,** College of Engineering, Ithaca, NY **August 2019 –December 2022**

**GPA: 3.92, Magna Cum Laude**

Bachelor of Science in Computer Science, Minor in Electrical and Computer Engineering

*Selected Coursework****:*** Embedded Systems, Microcontrollers, Machine Learning, Computer Vision, Algorithms, Artificial Intelligence, Operating Systems, Computer Organization, Digital Logic, Object-Oriented Programming, Firmware Design

**Cornell University,** College of Engineering, Ithaca, NY **Expected December 2023**

Master of Engineering in Electrical and Computer Engineering

**ENGINEERING EXPERIENCE**

**Anduril Industries, Inc.**,Costa Mesa, CA, *Software Engineering Intern* **Expected June 2023 – August 2023**

* Planned internship with the autonomous flight controls team writing in C++

**Tesla, Inc.**,Palo Alto, CA, *Vehicle Software Integration Intern* **May 2022 – August 2022**

* Developed vehicle control code in C that is currently being executed on millions of vehicles worldwide
* Streamlined battery pack validation by leveraging python scripts on the factory floor, decreasing pack assembly time
* Created new service method to backup and restore custom ECUs 300% faster in C and Python

**Cornell Racing (Formula SAE Electric)**, Ithaca, NY, *Low Voltage Team Lead* **August 2019 – June 2022**

* Led a student team in the organization and integration of the low voltage systems for an electric racecar
* Oversaw and assisted in the design of six custom PCBs, including an ECU, a power distribution board, and a shutdown board
* Coded and debugged all firmware for controlling the throttle, brakes, indicators, dashboard, and on/off conditions

**Advanced Micro Devices, Inc. (AMD)**, Santa Clara, CA, *Silicon Design Engineering Intern* **May 2021 – August 2021**

* Designed next generation x86 microprocessors alongside the Cores Physical Design group using digital logic
* Programmed in Verilog to eliminate clock skew and minimize hold time in the branch prediction unit
* Contributed to increasing clock speed on AMD Ryzen CPUs

**SELECTED PROJECTS**

**Sharks and Minnows Videogame on a PIC32 Spring 2022**

* Designed and built a multiplayer videogame which introduces the player as both the predator and the prey
* Features a complex FSM, multiple game modes, sound effects, and nostalgic hardware
* Published in the July 2022 Edition of Circuit Cellar Magazine

**Autonomous Arduino Maze-Solving Robot** **Fall 2021**

* Synthesized a PID controller and a Depth First Search algorithm to solve an arbitrary 10’ x 10’ maze in under five minutes
* Equipped robot with an Arduino, a battery pack, in-hub continuous-rotation servos, ultrasonic sensors, and photoresistors
* Wirelessly streamed location in maze using radio frequency and 7-segment displays

**TEACHING EXPERIENCE**

**Graduate Research Teaching Specialist,** Cornell University **January 2023 – Present**

* **ECE 3140: Embedded Systems;** *Course Material:* Assembly and C programming, I/O, scheduling, and concurrency

**Undergraduate Teaching Assistant,** Cornell University **August 2021 - December 2022**

* **ECE 4760: Design Using Microcontrollers;** *Course Material:* C programming, electronic design, and embedded control
* **ECE 2300, Digital Logic and Computer Organization;** *Course Material:* transistor design, FPGA, pipelining, and memory
* **ECE 1210, Smartphones;** *Course Material:* FSMs, instruction sets, assembly, Boolean algebra, and digital logic

**AWARDS**

**Tau Beta Pi National Engineering Honor Society**, New York Delta Chapter **Spring 2022**

**Dean’s List (Every Semester)**, Cornell University; College of Engineering **Fall 2019 - Present**

**SKILLS**

**Programming:** *Languages***:** Python, C/C++, Java, OCaml, Swift; *Software:* Altium, Xcode, Git, Arduino, Microchip

**Hardware:** PCB: Schematics, Layouts, Manufacture, Validation; Soldering, Breadboarding