Tyler Bisk

tjb274@cornell.edu | www.tylerbisk.com | 973-738-7722

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