**Tyler Bisk**

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**EDUCATION**

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

Master of Engineering in Electrical and Computer Engineering

*Admitted; Expected Enrollment January 2023*

**Cornell University,** College of Engineering, Ithaca, NY **Expected December 2022**

**GPA: 3.91**

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

*Selected Coursework****:*** Embedded Systems, Design with Microcontrollers, Digital Logic, Computer Vision, Algorithms, Intelligent Robots, Operating Systems, Programming

**ENGINEERING EXPERIENCE**

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

* Developed vehicle control code in C that is currently being executed on millions of vehicles worldwide
* Streamlined battery pack testing and validation by leveraging python scripts on the factory floor
* Building software to increase the reliability and safety of Model S and X battery packs

**Cornell Racing (Formula SAE Electric)**, Ithaca, NY, *Electrical Team Lead* **May 2021 – June 2022**

* Led a team of 12 students 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)**, Remote, *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
* Selected to be published in Circuit Cellar Magazine in August 2022

**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

**TA EXPERIENCE**

**ECE 4760, Digital Systems Design Using Microcontrollers**, Cornell University**Planned Fall 2022**

* *Course Material:* C programming, electronic design, and embedded control

**ECE 2300, Digital Logic and Computer Organization**, Cornell University **Fall 2021**

* *Course Material:* transistor network design, FPGAs, pipelining, and memory hierarchy

**ECE 1210, The Computing Technology Inside Your Smartphone**, Cornell University **Spring 2021**

* *Course Material:* FSMs, instruction sets, assembly, Boolean algebra, and digital logic

**AWARDS**

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

**Dean’s List**, Cornell University; College of Engineering **All Semesters**

**SKILLS**

**Programming Languages:** Python, C/C++, Java, OCaml, Swift

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

**Software:** Altium, Xcode, Git, IDE: Arduino, Microchip, STM