Michelle Loven

ml2359@cornell.edu
774-502-8732

EDUCATION

CORNELL UNIVERSITY
BS, Electrical Engineering
GPA: 3.5/ 4.0
Expected May 2021

WORCESTER POLYTECHNIC INSTITUTE (WPI)
2017 — 2018

SKILLS

PROGRAMMING
Java • Python • C
JavaScript • Verilog
C++ • HTML/CSS • Assembly

TOOLS
LTSpice • MATLAB
ODB++ • Verilog Design Studio
Arduino IDE • Android Studio
Xcode • Jupyter • Flask

DEVICES
Arduino Microcontrollers
Sensors • Actuators
FPGA • ESP8266 WiFi Microchip

3D-PRINTING & DESIGN
SketchUp • MakerBot
SolidWorks • Audacity
Adobe Premiere Pro

COURSEWORK

ELECTRICAL ENGINEERING
Computer Architecture **(current)**
Microelectronics
Embedded Systems
Digital Logic & Comp. Organization
Machine Learning **(current)**
Optimal Systems Design **(current)**
Computer Vision **(current)**
Signals and Information
Probability and Inference
Materials for Energy Systems

COMPUTER SCIENCE
C/C++: Computer Systems
Python: Intro Computing
Java: Data Structures

PROFESSIONAL EXPERIENCE

ADVANCED SEMICONDUCTOR MATERIAL LITHOGRAPHY (ASML) | Analog Engineering Internship
June 2020 - August 2020

- Designed capacitive switched transimpedance amplifiers to replace existing amplifiers. Improved noise by 50dB
- Researched tolerance/ timing/ drift and selected parts for amplifier designs
- Conducted Monte Carlo simulations for noise gain, AC/DC sweeps, thermal analysis, tolerance response

WPI | Embedded Systems Elective T.A.
January 2016 - June 2018

- Instructed and contributed to the development of a course in which 25 high school students learned how to collect data using various sensors and microcontrollers
- Taught 40 elementary/middle school students to integrate sensors into robotics. Implemented line-following, proportional control, sensor input analysis

CORNELL RESEARCH EXPERIENCE

ROBOTICS PERSONAL ASSISTANTS LABORATORY | Researcher
January 2019 - September 2019

- Worked on automation of IKEA furniture assembly
- Led electrical team to build novel dowel manipulator and clamp compatible with Rethink Robotics humanoid robot
- Contributed to mechanical design and software of automatic robotics and custom sensors

ENGINEERING EXPERIENCE

VIBRATING WATCH | Watch for the visually impaired
Programmed and tested novel vibration patterns for accuracy of user perception. 3D printed compact casing and designed circuitry. Presented at Intel International Science and Engineering Fair. (Arduino, Sketchup, Android Studio) See github.com/Mishka2/vibrating_watch

SERO | Android app to discourage texting while driving
Developed app that sends drivers' estimated arrival time to certain contacts via SMS. (Java, Android Studio) See: github.com/Mishka2/safe_driving _app

SELF-BALANCING SPOON | Hardware aid for wrist immobility
Designed and 3D printed a spoon to maintain single axis rotational stability for people with limited wrist mobility. (Makerbot, SketchUp)

OTHER PROJECTS

See github.com/Mishka2
Online multiplayer Liar's Dice game (Python, Flask, JS, HTML/CSS)
Snake and Minesweeper games to play on terminal (Python)
Unbeatable Tic-Tac-Toe game (Java)