

# Newton Ni

248-686-8887

cn279@cornell.edu

nwttni.github.io

---

## Education

**Cornell University** - College of Engineering

Expected May 2019

- B.S. in Computer Science, B.S. in Engineering Physics
- GPA: 4.00, Dean's List (Four Semesters)

---

## Research Experience

**Clark Lab** - Cornell Dept. of Molecular Biology and Genetics

May 2017 - Current

- Employ random forest classifiers to predict coronary heart disease status from genomic data
- Created bash scripts to clean and process thousands of NHLBI genotypes and phenotypes
- Apply data analyzing software commonly used in academia (e.g. PLINK)
- Compile and summarize relevant research papers in writing

**Xu Lab** - Cornell Dept. of Engineering Physics

Apr 2016 - Dec 2016

- Contributed to the development of a biologically safe low-power laser scanning microscope
- Segmented microscope images into foreground and background using Python
- Programmatically modulated laser intensity using positive feedback from microscope output

---

## Projects

**MIPS Processor** - Computer Systems and Organization

Feb 2017

- Designed a circuit in the Logisim simulator that executes a significant subset of MIPS instructions
- Optimized processor with pipelining, forwarding, and hazard detection

**Evolution Simulating Game** - Honors Object-Oriented Programming

Oct 2016 - Nov 2016

- Implemented parsing, fault injection, and interpreting for complex context-free grammar in Java
- Developed front-end GUI and back-end web server using Javafx and Spark
- Drafted detailed overview documents for major design decisions and features
- Collaborated with partner over two months and 10,000 lines of code

---

## Leadership Experience

**Teaching Assistant** - Honors Object-Oriented Programming

Aug 2017 - Current

- Hold office hours for 10-20 students, one and a half hours per week
- Teach lab with four other TAs for 25-35 students, one hour per week
- Maintain self-developed automatic submission checker, which runs as a web server

**Youth Worker** - First Ithaca Chinese Christian Church

Sept 2015 - Current

- Prepare lesson plans and facilitate bimonthly discussions for 10-20 middle and high school students
- Engage in community outreach events (e.g. volunteering at local soup kitchen)

---

## Skills

### Technical

- **Programming Languages:** Java, Python, Ruby, OCaml, Javascript, C, Bash
- **General Software:** Git, LaTeX, Vim, Unix systems
- **Relevant Coursework:** Computer Systems and Organization, Discrete Math, Functional Programming, Introduction to Algorithms, Biological Statistics

### Non-technical

- **Music:** Violinist of 10 years, member of Cornell Chamber Orchestra
- **Interests:** Jogging, cooking, volunteering