Newton Ni

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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 15,000 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