Neil Chen

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EDUCATION

Columbia University, School of Engineering and Applied Science; Bachelor of Science, May 2019
Computer Science and Electrical Engineering; GPA 3.40/4.00
Relevant coursework: Advanced (Systems) Programming, Computer Science Theory, Computer Vision, Machine Learning

SKILLS

Proficient in Java, C, Python
Experience with C++, HTML, CSS, JavaScript, MATLAB, SolidWorks
Frameworks and tools AWS, Bash, Flask, Git, LaTeX, Make, Mathematica, NumPy, Pandas, Perforce, ROS, SCons, Tmux, Vim

PROJECTS

- *Book-Reading Bot,* ***2nd place of 1,000+*** *students at HackMIT - MIT's international hackathon.*
Participated in a team of two to develop a page-flipping and book scanning machine for automated book scanning and audiobook generation. Built with C, JavaScript, and Python.
- *Now And Then,* ***1st place of 100+*** *developers at United Nations Open Source AngelHacks - The first hackathon held at the UN.*
Implemented an interface for visualizing historical data overlaid on online maps/street views. Built with HTML/CSS/JS and Python.
- *Visual Search & Sort,* ***1st place of 50+*** *students at MakeCU - Columbia University's premier hardware hackathon.*
Designed a robotic system to physically identify and manipulate playing cards to visualize searching and sorting algorithms. Built with HTML/CSS/JS, SolidWorks, and Python.
- *Chiro - An Intelligent System for Preventive Back Care,* ***Entrant at HackMobile*** *- Qualcomm's mobile device hackathon.*
Built a webapp and machine learning model using transfer learning to automatically classify poor posture. Built with Keras/TensorFlow.
- *Towards Autonomous Warehousing and Delivery, with the* ***Humanoid Robotics Lab*** *at Columbia University.*
Built a speech and visual signage interface for mobile robot navigation and control. Built with OpenCV and Python.

EXPERIENCE

Qualcomm
Software Engineering Intern, May 2017 - August 2017
- Developed build framework automation tools for CDMA modem technologies using C++, Perl, and Python.
- Integrated LTE functionality into three revisions of modem firmware within 2 months.

Lamont-Doherty Earth Observatory
Sensor Engineer/Data Analyst, September 2016 - May 2017
- Performed sensor tests and implemented sensor automation tools using Python and C++.
- Built a data analytics and sensor calibration tool from scratch within 1 month.

BlueStamp Engineering
Lead Instructor, April 2016 - August 2016
- Provided consulting and mentorship for mechatronics and software research. Created curriculum and instruction on real-time programming in C, software design patterns in Java and Python, wireless communication over HTTP, Bluetooth, and Zigbee.
- Optimized design techniques and rapid prototyping methods with electronics design, computer-aided modeling, and computer numeric control (CNC) fabrication. Improved prototyping times by up to 1 week.

WreadWrkr
Software Engineering Intern, June 2015 - August 2015
- Developed both frontend and backend technologies for a media aggregation and exchange site.
- Worked with HTML, CSS, SASS, JavaScript, JQuery, Meteor.js, and MongoDB to build a functional MVP within 2 months.

New York City Department of Education
Data Science Intern, June 2014 - September 2014
- Provided data research and logistics assistance in preparation for one of the first nationwide free pre-K programs.
- Performed data analysis using Excel macros and Python to improve early education accessibility for 70,000+ NYC families.

LEADERSHIP

Application Development Initiative , *Executive Committee Member*
- Conducted lectures and workshops on Python, HTML/CSS/JS, JQuery, Git, and hardware design
- Led a team of five developers renovating applications on behalf of the NYC Department of Education

Columbia University MakerSpace, *Superuser*
- Renovated computer numeric control (CNC) fabrication tools used by 1,000+ people monthly
- Managed 3D-printing and contactless smart card identification systems