Matt Wang

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OBJECTIVE: Seeking a technical internship to gain experience and expand my skillset.

EDUCATION

Princeton University *Princeton, NJ*
Bachelor of Science in Engineering *Expected May 2019*
Concentration in Electrical Engineering (ELE)

Relevant Coursework

Fall 2015
- *ELE 206/COS 306* – Contemporary Logic Design

Spring 2016
- *ELE 201* – Information Signals
- *COS 126* – General Computer Science

Fall 2016
- *ELE 208B* – Electronic and Photonic Devices
- *ELE 301* – Designing Real Systems
- *COS 226* – Algorithms and Data Structures
- *MAE 305/MAT 391* – Mathematics in Engineering I

SKILLS

Software Applications/Languages: Proficient in Java, Verilog HDL, MATLAB.
Familiar with 3D Mechanical CAD (Autodesk Inventor), Python, HTML, CSS, Javascript/jQuery.
Hardware: Familiar with oscilloscopes, function generators, soldering, digital logic circuits.
Biological Research Techniques: Cell plating, PCR, gel electrophoresis, soil treatment, statistical analyses.
Languages: English, Mandarin Chinese, and Spanish.

WORK EXPERIENCE AND PROJECTS

M2Robots (Startup), Intern (*Summer 2016*)
- Used Autodesk Recap 360 to create 3D models, experimented with photo to 3D model efficiency.
- Used MATLAB to analyze model data from .obj files created by Recap 360 for mathematical calculations.
- Created GUI for user to input coordinates of model boundaries, able to create a new .obj file with the user-defined bounds.

Arduino-Based Bots – Built on Arduino (*Summer 2016*)
- Built two remote-controlled robots with driving, distance-sensing, GPS-location-detecting functionalities.
- Programmed autonomous and manual control on one robot, and active transition between the modes on the other.

Shazam – ELE 201, Built in MATLAB (*Spring 2016*)
- Extracted peak pair data from an inputted sound clip using spectrogram analysis, somewhat uniquely identifying the clip.
- Implemented functionality of Shazam by comparing peak pairs to those of a known library of songs to match to a song.

Atomic Nature of Matter in Brownian Motion – COS 126, Built with Java (*Spring 2016*)
- Analyzed video frames of beads undergoing Brownian motion, to derive the Boltzmann constant and Avogadro's number.
- Processed images with thresholding, identified beads with depth-first search, and analyze data with relevant physics.

Princeton University Computer (PUnC) – ELE 206/COS 306, Built with Verilog HDL *(Fall 2015)*
- Designed and built 16-bit processor programmed in behavioral Verilog, synthesize on an FPGA.
- Programmed functionalities of LC-3 instruction set into controller/datapath implementation of fetch-decode-execute cycle.

MISCELLANEOUS WORK

The Ivy Advisor, Office Assistant and Tutor (*Summer 2015*)
- Tutored two international Chinese students in Algebra 2 and English Grammar.
- Reorganized/rewrote website text for new website (current), conducted basic clerical work and tech support.

ShareWorld Learning Center, SAT Tutor (*Summer 2015*)
- Tutored single student intensively across subjects in SAT exam, leading to a 250-point increase in tested score.

Young Scholars Program, Research Intern (*Summer 2014*)
- Studied Anaerobic Soil Disinfestation (ASD) as lab intern in USDA-ARS lab, UC Davis.
- Produced formal research paper and presented research results to other labs and other research interns of the program.

ACTIVITIES

Princeton iGEM Team, Member (*2016-present*)
- Currently studying advances in biotechnology in preparation for 2016-2017 competition season.