

Jessica Zhao

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EDUCATION

Columbia University in the City of New York

BS Electrical Engineering, Minor in Computer Science

Graduated Cum Laude in May 2016

GPA - 3.80/4.00

Dean's List, Tau Beta Pi

EMPLOYMENT

Columbia Electrical Engineering Department, Course Assistant: Signals and Systems Lab

Fall 2014, Fall 2015

- Supervised students during lab sections and prefaced projects with an introductory breakdown of the material

Columbia Computer Science Department, Course Assistant: Advanced Programming in C/C++

Fall 2015

- Taught review sessions, held weekly office hours, and graded programming assignments

Boeing Engineering Operations and Technology, Electrical Engineering Intern, Seattle, WA

Summer 2015

- Designed the layout of a printed circuit board with signal filtering functions for a critical data acquisition system
- Programmed an Arduino Uno microcontroller using its interrupt timer capabilities to implement dual chronometry

Qualcomm, Hardware Applications Intern, San Diego, CA

Summer 2014

- Designed schematic solutions using Cadence OrCAD Capture to fulfill codec headset control requirements
- Worked with design and component engineering teams to demonstrate these schematics' cost and component savings
- Set up department lab environment to run automated phone tests

SKILLS

TECHNICAL: Cadence, LTSpice IV, UNIX, Linux (Arch), C, MATLAB, Java, Python, C++

LANGUAGES: Mandarin (Limited Working Proficiency)

ADVANCED COURSEWORK: Digital Signal Processing, Digital Image Processing, Operating Systems, Advanced Programming in C/C++

PROJECTS

Radio Frequency-based Water Management System

A system that detects water level in a tank and enables wireless communication between sites.

Uses XBee radio communicators, ATtiny45, Arduino Uno, and Eagle for board layout design.

Pitch Shifting Tonal Components of a Signal

A MATLAB program that separates tonal and percussive components of a musical track and shifts the pitch of the tonal components.

Uses Short Time Fourier Transform, percussive onset detection, and phase reconstruction through interpolation.

Tempofy

An iOS application that uses your accelerometer data to stream a song with the same tempo to you as you work out.

Uses the Spotify and EchoNest APIs.

ACTIVITIES

Columbia Engineers Without Borders,

Education and Outreach Chair; Morocco Travel Team Member (traveled to Morocco in August 2015)

MAKECU, Hackathon Organizing Committee Member

Columbia Society of Women Engineers, Senior Board Advisor; Former Corporate Relations Chair