

CHARLES BOLTON

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PROGRAMMING PROJECTS:**RESTful API and Spreadsheet Parser:**

Python, Pandas, Jupyter, Excel, Flask, Postman, JSON, Matplotlib

Project completed as capstone for PSU. Internship with ecommerce consulting company The Good. Worked with a strategist and two software developers over the course of five months. Data wrangling from spreadsheets to database to API.

Ear Trainer:

Python, DFT, DSP

Exploration into the physical foundations of music, digital signal processing, and waveform generation, composition, and decomposition. Created over 5000 .wav files of sine, square, saw, and triangle waves, and combined them in many musical ways, then wrote a Discrete Fourier Transform which listened to the combined waves and parsed them. Turned the project into a game/practice tool for audio engineers and musicians.

TCP IRC Chatroom:

Python, Asyncio

Experiment in internetworking protocols; an asynchronous client/server chat application which supports multiple clients, chat room creation, deletion, joining, switching, leaving, broadcasting, as well as other functions relating to connections and disconnections. Two-person student project.

SFTP Client:

Java, Agile, Github, OOP, SFTP

SFTP client written in Java as an exercise in Java Networking using Agile (XP) software development as a guiding process. Team of six engineers developing application for secure file transfer protocol with numerous functions.

Appointment Manager:

Java, OOP, TDD, Android, HTTP

8-week, iterative/evolving project focused on developing Android application for managing appointments. Included 6 projects focused on test-driven development and OOP; culminated in fully-functional Android application which resembled Wunderlist.

COMPUTER SCIENCE COURSES:

Calculus I II
Intro to CS
Linear Algebra
Statistics
Programming & Problem-Solving
Systems Programming
Data Structures
Discrete Structures
Software Engineering
Operating Systems
Algorithms, Complexity, Design and Analysis
Music, Sound, Filters and Digital Signal Processing
Internet and Networking Protocols
Python
Java
Latex
Haskell
Advanced Programming In Java
Agile Software Development
Numerical Computation (current)
Full-Stack Web Development (current)
Theory of Computation (current)

EDUCATION:

Current: Graduate Student in Computer Science
Portland State University (Portland, OR)

2018: Accelerated Undergraduate **Computer Science**
Portland State University (Portland, OR)

2017: Sonic Arts/Audio Engineering
Portland Community College (Portland, OR)

2015: Post-Baccalaureate Inquiry World History, Politics, Economics
Portland State University (Portland, OR)

2014: **Mandarin Chinese** HSK 5 and Advanced Oral HSK Certification
Confucius Institute/Hanban (Portland, OR)

2005-2009: Bachelor of Arts in **English Literature**
Portland State University (Portland, OR)
ESL Certification (Portland, OR)

EMPLOYMENT:

2007-2018: Townshend's Tea (Portland, OR)

Server/Barista/Customer Service/Warehouse Management

Memorized, mixed, made and served over 150 kinds of tea in a chaotic, busy environment. Brewed, bottled, kegged and labelled, and distributed kombucha. Handled cash, maintained and operated business often by myself. Managed warehouse, inventory, purchases, delivered tea, etc.

2016 Summer Andeo Homestays (Portland, OR)
ESL Teacher

Created curriculum, instructed daily 80 min. classes, participated in daily field trips with students, organized activities, drove vehicle, etc.

2015-2016 Private **Mandarin Teacher** (Portland, OR)

Taught Mandarin Chinese to two brothers, ages 7 and 12, including HSK prep, listening, reading and writing. Educated in various other subjects: Math, History, Science, Social Studies, Physical Education (in Mandarin Chinese). Used Connections Academy online homeschooling curriculum.

2014: METEN English (**Chongqing, China**)
ESL Teacher

Taught 6-8 60-minute classes a day to teens and adults, ages 12-50. Required to adjust to various competency levels throughout the day, often taught new students/lessons. Followed many different textbooks and often needed to invent lesson plans without notice. Taught and created lessons on different topics.

2010-2011: Expertise Education (**Beijing, China**)
Kindergarten ESL Teacher

Taught English to children, ages 3-6. Took care of children (fed, put to bed, ensured safety, etc.) Prepared lessons, art/science projects, organized performances/holiday galas. Led a team of four teachers.

OTHER WORK:

TUTORING: Was ESL tutor to many students of various ages in China, USA, and Japan for approximately three years.

TRANSLATION: Translated Mandarin Chinese to English for various clients for six months. Volunteered as interpreter and guide for artist in Chongqing, China for four months.

EDITING: Edited two full-length books and have edited several research papers including a large research project on education in Oregon.

AUDIO: Completed a 6-month audio engineering apprenticeship in the fall/winter of 2015-16 at Ice Cream Party Studios (Portland, OR).

OTHER SKILLS:

Natural Languages: English, Chinese, Spanish

Computer Languages: C, C++, Python, Haskell, Java

Interests: Music, History, World, Art, Math, Economics, Writing, Philosophy

GRANTS/HONORS:

Idaho Falls High School: Summa Cum Laude

Idaho Top Scholar 2005 recipient

Confucius Institute: Scholarship for 1 year study in China (2014)

REFERENCES:

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Lead Strategist, The Good

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VP Operations, Townshend's Tea