

Brian Z. Shi

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Education

University of Pennsylvania, School of Engineering and Applied Science in Philadelphia, PA

Class of 2017

- Pursuing **B.S.E.** in Computer Science and **M.S.E.** in Computer Science

Recent coursework:

Machine Learning (Python)

Database and Info. Systems (SQL)

Networks and Security (Python, C)

Scalable & Cloud Comp. (Java, Js.)

Machine Translation (Python)

Operating Systems (C)

Computer Architecture (C, Assembly)

Market & Social Systems (Java)

Analysis of Algorithms

Stochastic Processes

Abstract Algebra

Key: graduate course, currently taking

Experience

SumAll in New York City, NY

Summer 2015

Software Engineer Intern - Java, Python, Haskell

- Intern for the backend team at SumAll, a data analytics startup specializing in data analytics in social media
- Wrote RESTful backend microservices that synced together the company's streams of user data, with support for scalable distributed computing through database sharding
- Technologies used included Dropwizard, Jersey, and Jackson for Java, Flask and Boto for Python, MongoDB, Dynamo, and Docker

University of Pennsylvania in Philadelphia, PA

August 2014 - Present

Teaching Assistant - Java

- TA for CIS 121 ("Data Structures and Algorithms"), a third semester course in Penn's Computer Science sequence
- Teach weekly recitations, rewrite projects and homeworks, improve autograders, hold office hours, grade assignments and exams, and lead review sessions

University of Pittsburgh Medical School in Pittsburgh, PA

May 2014 - Present

Contract Software Developer - JavaScript, PHP, SQL, HTML/CSS

- Developed and currently maintain pcnstesting.com, a web app used for making and administering exams to medical school students
- Please see project below.

BudgetSimple, Inc. in Pittsburgh, PA

Summer 2014

Software Development Intern - JavaScript, PHP

- Summer internship at BudgetSimple, Inc., a web company specializing in budgeting apps for consumers
- Implemented a new startup wizard using Backbone.js, as well as a corresponding backend following RESTful API
- Improved the web application's navigation, alert system, and user interface
- Rolled out software updates to BudgetSimple's 130,000+ activate users

Other work: *Developer* at PennCycle, *Research Intern* at University of Pittsburgh, *Server* at Walnut Grill, and *Sales Consultant* at Best Buy

Featured Projects

PCNS Testing - *solo contract project* - JavaScript (Backbone), PHP, PostgreSQL

- PCNS Testing is a web application that allows for creating, editing, and administering comprehensive, situation-based tests to be taken online by University of Pittsburgh Medical School students and residents. The app also has thorough score-reporting features.
- In summer 2014, I built from scratch its interactive user testing application, Backbone.js admin interface, PHP backend following REST API, and PostgreSQL database.
- I have since improved score-reporting, implemented protection against cheating, and added support for pictures and videos using S3.
- Deployed to pcnstesting.com. Went through months of beta-testing at Pitt before going live with its first iteration in July 2015.

Pennthoven - *solo project* - Python

- Pennthoven is a music composition application I am currently developing using machine learning in Python.
- The app essentially ports many of the prose and poetry generation NLP techniques into composing music.

Funsubscribe - *collaborated with Razzi Abuissa, Zack Elliott* - Backbone.js, Node.js, MongoDB

- Funsubscribe is an online subscription manager, which has features such as automatic cancellation of unused services, live subscription tracking, and subscription statistics. Made in PennApps Fall 2014, deployed to funsubscribe.com.

Skills

Languages

- *Advanced:* Python, Java, JavaScript | *Proficient:* Bash, SQL, PHP, HTML/CSS | *Beginner:* Haskell, OCaml, C

Libraries/Frameworks

- Flask, Django, Dropwizard, Jersey, jQuery, Backbone.js, Node.js, Slim, Hadoop MapReduce

Software

- AWS (EC2, S3, DynamoDB), Vim, Git, Docker, Jenkins, Apache (Web Server, Maven, Spark), Heroku, Eclipse, Unix