

## 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*

*Italicized = graduate course*

## 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 [pcntesting.com](http://pcntesting.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 [pcntesting.com](http://pcntesting.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 techniques 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](http://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