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Brian Z. Shi

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Education

University of Pennsylvania **August 2013 – May 2017**
Pursuing **B.S.E.** and **M.S.E.** in **Computer Science**

Recent Coursework:

Internet and Web Systems (CIS 555)	*Machine Translation (CIS 526)*	*Analysis of Algorithms (CIS 502)*
Database & Info. Systems (CIS 550)	Networks and Security (CIS 331)	Stochastic Processes (STAT 433)
Artificial Intelligence (CIS 391)	Scalable & Cloud Computing (NETS 212)	*Italicized = graduate course*

Experience

Software Engineer Intern - *SumAll* **Summer 2015**

- Summer backend intern for SumAll, a data company that brings analytics, reporting, and business intelligence to social media platforms.
- 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 include Dropwizard, Jersey, and Jackson for Java, Flask and Boto for Python, MongoDB, DynamoDB, Jenkins, and Docker

Teaching Assistant - *University of Pennsylvania* **August 2014 - Present**

- TA for CIS 121 (“Data Structures and Algorithms”), a third semester course in Penn's Computer Science sequence
- Duties include teaching weekly recitations, rewriting projects and homeworks, writing autograders, holding office hours, grading assignments and exams, and leading review sessions
- Projects include rewriting tools for statistics, improving the final project's writeup and interfaces, and writing a LZW Compression programming homework, and contributing to the vast grading infrastructure

Software Developer - *University of Pittsburgh Medical School* **May 2014 - Present**

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

Software Engineer Intern - *BudgetSimple, Inc.* **Summer 2014**

- Summer intern at BudgetSimple, Inc., a startup specializing in budgeting apps for consumers
- Implemented a new startup wizard using Backbone.js, as well as a corresponding backend following RESTful API. Also 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*, and **Sales Consultant** at *Best Buy*

Projects

Search Engine – CIS 555 Final Project *Java, Scala (Spark)*

- As a group of 4 students, we developed a distributed web crawler, inverted index engine, TD/IDF engine, PageRank engine, search engine, and a web interface.
- Big data computation mostly done in Apache Spark using EC2. Various indexes and crawl data stored in Dynamo.

Pennthoven – Solo Project *Python*

- 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.

PCNS Testing – Solo Contract Project *JavaScript (Backbone), PHP, PostgreSQL*

- A consulting project for Prof. Ira Bergman of the Univ. of Pittsburgh Medical School, PNCS Testing is an application built from scratch that allows for creating, editing, and administering comprehensive, situation-based tests to be taken online by med school students and residents. The app also has thorough score-reporting features.
- Deployed to pcnstesting.com. Went through months of beta-testing at Pitt before going live in July 2015.

Skills

Languages:	*Advanced:*	Java, Python, JavaScript			
	Proficient:	Shell, C/C++, SQL, PHP, HTML/CSS			
	Beginner:	Scala, Haskell, OCaml			
Frameworks/ Tools:	AWS (EC2, S3, DynamoDB)		Flask	Django	Dropwizard
	Apache (Server, Maven, Hadoop, Spark, Tomcat)		jQuery	Node.js	Backbone.js
	Vim		Git	Unix	IntelliJ