

Charlie Marsh | Software Engineer

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Education

Princeton University

Computer Science (B.S.E.), 3.92/4.00 GPA (unweighted)

Graduated with **Highest Honors** (*Summa Cum Laude*) as a member of the **Phi Beta Kappa** and **Tau Beta Pi** honor societies. Awarded the **Phillip Y. Goldman '86 Senior Prize**, granted by the Computer Science Department to the individual senior in top academic standing. Thesis in the field of computational linguistics, advised by Prof. Christiane Fellbaum, earned an A+ grade. Transcript includes five additional A+ grades, each of which required written endorsement from course instructor. Completed certificate program in **Statistics and Machine Learning**.

Princeton, NJ

2011–2015

The American School in London

H.S. Diploma, 4.03/4.33 GPA (unweighted)

Graduated as Valedictorian. 2330 SAT I, 800 SAT II in Math, Chemistry, and Physics.

London, UK

2007–2011

Work Experience

Spring Discovery

Staff Software Engineer

Having joined as the second engineering hire, I lead the development of the software platform, serving two primary groups of users: machine learning researchers, who rely on our extensive in-house machine learning infrastructure, data infrastructure, and developer tools; and translational biologists, who rely on the user-facing applications we build for making sense of high-throughput, high-content drug screening data at scale. Play around with our [tools](#).

San Carlos, CA

February 2018–Present

Cedar

Engineering Lead

Full-stack development as a member of the early team. Operated in a forward-deployed engineering role, working closely and directly with clients (healthcare providers) to integrate with the Cedar platform.

New York, NY

September 2017–February 2018

Khan Academy

Senior Engineer

Promoted to *Senior Engineer* after one year. (Company guidelines suggest four to five years of experience for this role.) Operated as co-engineering lead for the Independent Learning team (10 engineers, 20 cross-functional members), responsible for the cross-stack (web, mobile web, mobile native) ownership and development of Khan Academy's self-directed learning experience.

Mountain View, CA

November 2016–August 2017

Khan Academy

Software Engineer

Full-stack development, with a focus on Android. Proposed, planned, and led a multi-month, multi-engineer effort focused on reducing app size, which resulted in a 75% decrease in download size. Brought practice exercises to the Android apps. Built a custom keypad (React, Redux) for manipulating mathematical expressions on mobile devices.

Mountain View, CA

September 2015–November 2016

Khan Academy

Software Development Intern

Full-stack development for the Content Tools Team, working with one of the largest and most advanced React codebases in the world. Focused on integrating thousands of practice math exercises into an innovative, handwriting recognition-based iPad application.

Mountain View, CA

May–August 2014

Microsoft

Software Development Intern

Front- (TypeScript, HTML, CSS) and back-end (C#, C++, IntelMKL) development for Bing's Core Relevance Incubation Team, with a focus on visualizing novel deep learning techniques, and their application to search, at scale.

Seattle, WA

June–August 2013

Toptal*Head of Content*

Grew Toptal's Engineering Blog, from scratch, to hundreds of thousands of unique visits and regular production of novel technical content, sourced from engineers around the globe.

Remote*March 2013–May 2014***Facebook***Market Development Intern, Mobile Products***London, UK***June–August 2012***Princeton University***Research Intern, Dark Matter***Princeton, NJ***July–August 2010*

(Open Source) Projects

math-input: Khan Academy's mobile expression editor, available on [GitHub](#).

Jasper: An open source platform for developing always-on, voice-controlled applications. Featured in [WIRED](#) and [Forbes](#). The [GitHub repository](#) has over 3000 stars and 800 forks.

Script Playground: An [in-browser](#) playground for Bitcoin's scripting language.

Semantic: A library for extracting semantic information from text. Available via [PyPI](#).

Quizzler: A quiz-based iOS app that generates its own questions using NLP techniques. Rated the first place entry in Facebook Seattle's *Summer of Hack* Hackathon.

type blog: [Personal blog](#), with links to the aforementioned projects, academic papers, blog posts, and more.

Extracurriculars

Introduction to Side Projects*Co-Creator, Instructor*

Designed and taught course for hundreds of Princeton University students on the art of side projects, including ideation, technical approaches, and launch tactics. See the [course website](#) for more.

Princeton, NJ*April–May 2015***Introduction to Hacking***Co-Creator, Instructor*

Designed and taught course on applied topics in programming, such as web scraping and computer security. See the [course website](#) for more.

Princeton, NJ*March–May 2014***Computer Science Department***Undergraduate Grader*

Graded programming assignments for Algorithms & Data Structures course.

Princeton, NJ*January–May 2014*

Addendum

My [personal website](#) contains links to the projects mentioned above (most of which are available on [GitHub](#)), as well as several others (usually of a more academic variety). It also hosts blog posts I've written on [learning Android](#), [server-side rendering with React](#), [Python implementations](#), and more, several of which have been featured on the front page of Hacker News, in Python Weekly, and elsewhere.