Charlie Marsh | Software Engineer

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Education

Princeton University **Princeton, NJ**
Computer Science (B.S.E.), 3.92/4.00 GPA (unweighted) *2011–2015*
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**.

The American School in London **London, UK**
H.S. Diploma, 4.03/4.33 GPA (unweighted) *2007–2011*
Graduated as Valedictorian. 2330 SAT I, 800 SAT II in Math, Chemistry, and Physics.

Work Experience

Spring Discovery **New York, NY**
Machine Learning *February 2018–Present*
Building machine learning infrastructure and developing machine learnt models to fight back against the diseases of old age and accelerate the discovery of anti-aging therapies.

Cedar **New York, NY**
Engineering Lead *September 2017–February 2018*
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.

Khan Academy **Mountain View, CA**
Senior Engineer *November 2016–August 2017*
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 learner experience.

Khan Academy **Mountain View, CA**
Software Engineer *September 2015–November 2016*
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.

Khan Academy **Mountain View, CA**
Software Development Intern *May–August 2014*
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.

Microsoft **Seattle, WA**
Software Development Intern *June–August 2013*
Front- (TypeScript, HTML, CSS) and back-end (C#, C++, IntelMKL) development for Bing's Core Relevance Incubation Team, with a focus on visualizing novel machine learning techniques, and their application to search, at scale.

Toptal **Remote**
Head of Content *March 2013–May 2014*
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.

Facebook — **London, UK**
Market Development Intern, Mobile Products — *June–August 2012*

Princeton University — **Princeton, NJ**
Research Intern, Dark Matter — *July–August 2010*

Projects

Jasper: [Python] 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: [JavaScript] An in-browser playground for Bitcoin's scripting language.

Readjoy: [Node, Express, React] A web application for aggregating and recommending long-form journalistic content. Built with JavaScript from end to end.

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

Quizzler: [Objective-C, Python] 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 — **Princeton, NJ**
Co-Creator, Instructor — *April–May 2015*
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.

Introduction to Hacking — **Princeton, NJ**
Co-Creator, Instructor — *March–May 2014*
Designed and taught course on applied topics in programming, such as web scraping and computer security. See the course website for more.

Computer Science Department — **Princeton, NJ**
Undergraduate Grader — *January–May 2014*
Graded programming assignments for Algorithms & Data Structures course.

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.