Brian Hsu

SOFTWARE ENGINEER

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Work Experience

Facebook   *Menlo Park, California*
INCOMING PRODUCTION ENGINEER   *Feb 2020*

LiveRamp   *San Francisco, California*
SOFTWARE ENGINEERING INTERN, DATA MANAGEMENT BACKEND   *May 2019 - Aug 2019*

- Worked with a variety of big data systems, helping **add to, segment, and process petabytes of customer data** to enable data-driven marketing.
- Developed and owned a backend service, including a **new big data pipeline**, for a new product. Worked under and met a tight deadline to meet client demands.
- **Containerized applications** using Docker and Kubernetes, increasing development velocity, enabling scalability, and improving fault tolerance.
- **Optimized performance** of mission-critical applications, and increased visibility into errors by adding **fault-detection** logic.
- Collaborated across teams, **implementing new endpoints to enable easier access** to my team's systems.

Algorithms for Computing and Education (ACE) Lab, UC Berkeley   *Berkeley, California*
RESEARCH ASSISTANT   *May 2018 - Present*

- Worked with PhD student Nate Weinman, under Professor Armando Fox, to **research and develop novel computer science practice problems** to make computer science more accessible and easier-to-learn for beginning and intermediate students.
- Collaboratively designed and implemented an **interactive web application** to solve Parsons Problems, enabling a 80+ student research study.
- Developed a system for automatically **grading student submissions at scale** safely and efficiently, parallelized using multiple workers.

Education

University of California, Berkeley   *Berkeley, CA*
B.A. IN COMPUTER SCIENCE, MINOR IN ENGLISH   *Aug. 2016 - Dec. 2019 (Expected)*

- **Major GPA: 3.78, Cumulative GPA: 3.63**
- **Selected Coursework:**

Introduction to Database Systems	Efficient Algorithms and Intractable Problems	Operating Systems
Computer Security	Introduction to Artificial Intelligence	Data Structures
Structure & Interpretation of Computer Programs	Machine Structures	Discrete Math & Probability Theory
Principles & Techniques of Data Science	Concepts in Computing with Data	Adv. Topics in Computer Systems

Skills

Programming: Java, Python, JavaScript, C, Go, SQL, R, HTML/CSS, RISC-V Assembly
Technologies: Docker, Kubernetes, Hadoop MapReduce, Google Cloud Platform, Pub/Sub, React, Terraform, Git, jQuery, Flask, UNIX
Languages: Fluent in both English and Chinese

Projects

bDocs

- A single-page web application for collaborative, real-time, in-browser rich text and code editing.
- Supports synchronized text editing across multiple users, along with importing text documents, synchronized settings (language, font size) and titles, and displaying recently accessed documents.
- Built using **React** and **Semantic UI**. Backed by a **Firebase** Realtime Database.

PaperJS Parsons

- A web application used as an interface to solve practice Parsons Problems. Used to help teach students Paper.js, a graphics scripting library.
- Allows users to run and see the effects of their code, and displays interactive examples for users to compare the results of their submissions with.
- Developed collaboratively as part of a preliminary stage of research into the efficacy of Parsons Problems, a new type of practice problem introduced to improve computer science education.
- Written in **HTML** and **JavaScript**, using the Bootstrap, jQuery, and Paper.js libraries.