Jeremy Hsu

jeremyhsu.me | jeremyhsu@college.harvard.edu | github.com/hsujeremy

Education

Harvard University | B.A. in Computer Science — May '24
GPA 3.84/4.0 · **Computer Science GPA** 4.0/4.0
Selected Coursework Abstraction and Design in Computation · Design of Useful and Usable Interactive Systems · Linear Algebra and Differential Equations · Introduction to Computer Science · Multivariable Calculus

Experience

Lime | Software Engineer Intern – Partnerships Platform — San Francisco, CA
Ruby on Rails, JavaScript, MySQL — May '21 – Aug '21

- Developed a server-side API to enable seamless MaaS integrations between Lime vehicles and public transit providers which launched in August 2021 starting with riders in Berlin.
- Architected and implemented the end-to-end refund flow along with the lifecycle APIs for users and for fetching real-time vehicle data through QR code scanning or license plate entry.
- Extended the functionality of a company-wide internal administrative portal by creating UI components that enable assigning permission access-control roles and viewing mobility data feed instructions for regions and external partners.

Cisco | Software Engineer Intern – Webex Media Engine — San Jose, CA
C++, Python, Elasticsearch — May '20 – May '21

- Overhauled and extended the team's suite of internal debugging and triage tools by writing new and updating existing automation, analysis, and visualization scripts, deployed using custom-built Jenkins jobs and CLI commands, saving engineers multiple hours per day.
- Collaborated with overseas teams to develop and deploy a data aggregation module leveraging the Elastic API that resulted in Kibana dashboards loading up to 5x faster.
- Debugged production code and wrote unit tests for the Webex Media Engine metrics and audio echo canceler components.
- Created and monitored interactive dashboards visualizing critical media quality and network performance metrics, enabling engineers to identify problematic trends and issues more rapidly.

Activities

Datamatch | Algorithm Lead — Cambridge, MA
C++, Python, Sentence-BERT — Sep '19 – Present

- Wrote the mutual and pseudo-random matching algorithms with two other members for Match21, Datamatch's May launch targeting graduating Harvard seniors.
- Improved Datamatch's user-to-user compatibility score function by collaborating with a small team to implement semantically-nuanced sentence embeddings with Sentence-BERT and apply an inverse-proportional weighting to questions to account for distribution polarity in survey responses.
- Datamatch's February 2021 launch matched 42,000+ students across 34+ universities, including Harvard, MIT, and Berkeley.

Projects

YouTube Party [Node.js, React, Socket.io, YouTube iFrame API]
A full-stack web app that allows any number of users to stream YouTube videos synchronously using web sockets. The site synchronizes pause and play operations, keeps track of the number of online users, and includes an in-app chatroom.

ML-Enabled Spotify Curator [Flask, React, Celery, Redis, Scikit-Learn, Spotify Web API]
A full-stack web app that predicts whether a user will like a particular song based on musical characteristics of songs in their Liked Songs library. Song characteristics are fetched from the Spotify Web API while training and prediction tasks are handled asynchronously on the backend using Celery as a distributed task queue and Redis as both a transport store and message broker.

Roommate Hub [Swift, UIKit, MessageUI, Firebase]
An iOS app organizing the shared living experience for roommates. Features include secure user authentication, synchronized task lists, interactive roommate profiles, anonymous message forums, and embedded iMessaging.

OCaml Interpreter [OCaml]
A set of interpreters for a Turing-complete subset of OCaml with support for simple atomic types; unary and binary operations; recursion; and higher-order functions. Each line of OCaml is evaluated following three distinct semantic models: the substitution model, the dynamically-scoped environment model, and the lexically-scoped environment model.

Technical Skills

Programming Languages C++ · Java · Python · JavaScript · Swift
Frameworks & Technologies React · Ruby on Rails · Node.js · SwiftUI · UIKit · Firebase · Elasticsearch · Figma