JEREMY HSU

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EDUCATION

Harvard University | B.A. in Computer Science — May '24

GPA 3.84/4.0 · **Computer Science GPA** 4.0/4.0

Relevant Coursework Functional Programming · Design of Useful and Usable Interactive Systems · Linear Algebra and Differential Equations · Introduction to Computer Science · Multivariable Calculus

Clubs & Organizations Datamatch · Harvard Open Data Project · Harvard Computer Society

EXPERIENCE

Lime | Software Engineer Intern – Partnerships and Data Sharing — San Francisco, CA

Ruby on Rails, Redis — May '21 – Present

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. Built Jenkins jobs and command line interface to deploy these tools.
- Collaborated with overseas teams to develop and deploy a data aggregation system that accelerated Elasticsearch data reads and Kibana dashboard load times, and to install an automated alert system to detect incoming logs matching edge cases.
- 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 app quality and network performance metrics to rapidly identify problematic trends and issues.

RESEARCH

Harvard Cloud Networking and Systems Lab | Undergraduate Researcher — Feb '21 – Present

- Working under Professor Minlan Yu on a programmable measurement architecture for network operations.
- Researching how to leverage RPC system queues to identify network performance issues such as noisy neighbor effects and head-of-line blocking.

PROJECTS

YouTube Party — [Node.js, React, Socket.io, YouTube iFrame API]

A full stack web application that allows any number of users to stream YouTube videos synchronously using web sockets and a YouTube iFrame player.

ML-Enabled Spotify Curator — [Flask, React, Celery, Redis, Scikit-Learn, Spotify Web API]

A full-stack web application that iterates over a set of inputted songs and calculates the probability that the user will like each song based on their Liked Songs library. Probabilities are calculated using k-means clustering, and Celery workers execute the training and prediction functions within a distributed task queue.

OCaml Interpreter — [OCaml]

A set of metacircular interpreters for a Turing-complete subset of OCaml. Users can write OCaml on a graphical REPL, and each line is executed within three distinct semantic models: the substitution model, the dynamically-scoped environment model, and the lexically-scoped environment model.

RoommateHub — [Swift, UIKit, MessageUI, Firebase]

An iOS application organizing the shared living experience for roommates. Features include secure user authentication, synchronized task lists, interactive roommate profiles, anonymized message boards, and embedded iMessaging.

TECHNICAL SKILLS

Programming Languages C · C++ · Java · Python · JavaScript · Swift · OCaml

Frameworks & Libraries React · Node.js · SwiftUI · UIKit

Tools & Technologies Airflow · Elasticsearch · Jenkins · Firebase · Figma

ACTIVITIES

Datamatch | Algorithm Lead — Cambridge, MA

C++, Python, Sentence-BERT — Sep '19 – Present

Datamatch is a matchmaking service that connects and sponsors meals for students based on their personality compatibilities.

- Implemented response embeddings with Sentence-BERT to improve Datamatch's score function (between two users) accuracy by weighting questions with different responses based on their responses' semantic cosine-similarity.
- Datamatch 2021 connected 42,000+ users across 34+ universities, including Harvard, MIT, McGill, and Berkeley.