

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

Cisco | Software Engineer Intern – **Webex Media Engine**

San Jose, CA

C, C++, Python, Elasticsearch, Jenkins, Airflow

May '20 – Present

- Currently building a testing framework for the acoustic echo cancellation module for macOS and Windows platforms.
- Took ownership of the expansion of the Webex team's suite of internal debug and triage tools by implementing new and updating existing modules. These tools save Webex engineers hours daily by automating frequent processes such as searching and downloading available call logs, detecting errors and abnormalities, and triaging them into relevant problem categories.
- Creating new and updated existing Jenkins jobs and pipelines to allow a broader amount of Webex engineers to leverage these debug and triage tools.
- Worked closely with engineers in Asia to implement a data aggregation solution with Python and the Elastic API, which accelerated Elasticsearch data reads and increased dashboard loading times for key performance indicators.
- Created interactive dashboards visualizing critical system, app, and network performance metrics to identify trends and potential problem areas rapidly.

Datamatch | Software Developer – **Algorithm Team**

Cambridge, MA

Python, Word2Vec, Doc2Vec, Sentence-BERT, TF-IDF

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.
- Implemented the Gale-Shapley stable matching algorithm as a subset of Datamatch's full algorithm to provide stable and efficient matching for February 2020 users.
- Datamatch 2021 connected 42,000+ users across 34+ universities, including Harvard, MIT, McGill, and Berkeley.

RESEARCH

Harvard Cloud Networking and Systems Lab | Undergraduate Researcher

Feb '21 – Present

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

PROJECTS

ML-Enabled Spotify Curator

[Flask, React, Celery, Redis, Scikit-Learn, Spotify Web API]

A full-stack web application leveraging machine learning to help users discover new songs they love. Spotify Curator calls the Spotify API to securely authenticate users and store their liked songs' attributes as training data. It then performs k-means clustering to determine the probability that the user will like any new song or playlist. Model training and predictions are performed asynchronously by Celery workers within a distributed task queue, with Redis serving as both a message broker and result store.

OCaml Interpreter

[OCaml]

A series of metacircular interpreters for a Turing-complete subset of the OCaml programming language. Users are prompted with a graphical REPL and commands are executed based on 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 enhancing the shared living experience for roommates. Features include secure user authentication with Firebase Authentication; synchronized task lists, interactive roommate profiles, and anonymized message forums with Firebase Realtime Database; and integrated iMessage options with MessageUI.

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 Expressions Dance Company · USTA National-Level Tennis Player