

Kalvin Chang

kalvinc@andrew.cmu.edu • (310) 666-5091 • kalvinchang.github.io • linkedin.com/in/kalvinc

EDUCATION

Carnegie Mellon University – School of Computer Science

Bachelor of Science in Computer Science, Concentration in Human-Computer Interaction (HCI)

GPA: 3.65 / 4.0 (Dean's List: Fall 2020, Spring 2021)

Pittsburgh, PA

Dec 2021

Selected Coursework:

Natural Language Processing, Speech Processing, Distributed Systems (current), Algorithm Design & Analysis, Intro to Computer Systems, Computational Forensics & AI, Ethics & Policy Issues in Computing, Language Diversity & Cultural Identity, Great Ideas in Theoretical CS, Designing Human Centered Software

SKILLS

Technical: Java, Python, C, HTML, CSS, Amazon Web Services, Standard ML, Ruby, Git, Firebase

Languages: English (native, fluent), Mandarin Chinese (native, fluent, CA Bilingual Seal), Taiwanese Hokkien

EXPERIENCE

Amazon Web Services

Jun 2021 - Aug 2021

Software Development Engineer Intern, EC2 Instance Quality Team

Seattle, WA (Remote)

- Implemented **paginated** API to return large payloads in batches to work around **Lambda's** payload size limit
- Sped up the downloading of **S3** objects with **multithreading** for a Java Lambda
- Onboarded additional features for a Lambda / React frontend to help on-call engineers diagnose EC2 Instances
- Caught elusive bug in AWS Java SDK after collaborating with other SDK teams, leading to a patch

Cardinal Blue Software, Inc.

Feb 2020 - Jul 2020

Server Developer Intern, PicCollage

Taipei, Taiwan

- Investigated **PostgreSQL** transition to transactional pooling, which later increased database scalability **18-fold**
- Handled edge cases in a **Ruby on Rails** server's Sign in with Apple auth flow used by thousands of users
- Rerouted requests on the main server's third busiest route to a microservice by using an **Nginx** reverse proxy
- Implemented active cache invalidation to fix stale content bug caused by time-based cache expiry

Hopscotch Health Pvt. Ltd.

May 2019 - Jul 2019

Software Engineering Intern

Pittsburgh, PA

- Implemented **REST** API endpoints for internal tools in **Python** and **Flask** for tobacco cessation and diet apps
- Cleaned, parsed, and summarized 10000+ records from a public cancer hospital in India with **Pandas** and **SQL**
- Developed mobile app's back end with **JavaScript** & **Firebase** Cloud Firestore, Functions, and Messaging
- Managed the release of 2 mobile **ionic** chat apps to the Google Play Store

Carnegie Mellon University

Aug 2019 - Dec 2019, Aug 2020 - Dec 2020

Teaching Assistant, 15-150 Principles of Functional Programming

Pittsburgh, PA

- Updated assignments and handouts for a 150+ student course on **SML/functional programming**
- Taught labs to 15+ students and held weekly office hours to provide intuition on key concepts and homework

PROJECTS

Morphotactics (github.com/dmort27/morphotactics)

Feb 2021 - May 2021

- Implemented **Python** interface for linguists to express a language's morphology with finite state transducers
- Compiled dependencies among inputted morpheme classes with a depth-first graph search algorithm

Question Generation, NLP Team Project (github.com/brianyan918/Question-Answering-NLP)

Oct 2019 - Dec 2019

- Generated grammatical questions on a Wikipedia article using **SpaCy's** dependency parse tree in **Python**

Taipei MRT Station Simulation, Gadgets Final Project (github.com/kalvinchang/mrt-simulation)

Dec 2020

- Fetched train arrival times from an API endpoint with an **Arduino ESP32** and parsed the XML response
- Synthesized music and voice commands indicating arrival/departure with Tone and ESP8266Audio libraries

Aftermath, Team Lead and Full Stack Developer (aftermathapp.herokuapp.com)

May 2017 - Oct 2017

- Peer tutoring platform for math that **placed first** in the Congressional App Challenge (CA-39, 138 teams)
- Developed text/voice chat & collaborative sketchboard that rendered marks & LaTeX across devices in real time
- Full stack **JavaScript** Web app with **Firebase**, **Node.js/Socket.io** and Youtube, MathQuill, and Desmos APIs