

# BILL LIU

## STUDENT & SOFTWARE ENGINEER

### CONTACT

✉ enmingliu@g.ucla.edu

🔗 eprotagoras

### EDUCATION

University of California, Los Angeles  
B.S. Computer Science 2022  
3.82 Major GPA

### PROJECTS

#### iOSDH

App designed to provide drivers with an outlet to autonomously, hands-free, report potholes they encounter to the relevant government agencies. built natively in **Swift**, and makes calls to **Firestore Realtime Database** and our ML model in **Google ML Engine**, updates **JavaScript** dashboard web app.

#### Up2Date

Flexible and customizable news subscription platform that allows users to keep up with relevant topics. historical data is scraped with **Bing Search API**, and services are delivered to users with **Amazon SES**. implemented through a **Django** server hosted on **AWS Elastic Beanstalk**, where the user interacts with a front-facing **Chrome extension**.

#### Sincerely, AI

Deep learning project designed to classify sincere text with model trained using **transfer learning**. implemented back-end API with **Django**, built and trained ML model with **Keras** and **AWS**, implemented UX through **Chrome and Firefox browser extensions**, and integrated our browser app with **Twilio API**.

#### Micromouse

Autonomous robot designed to find the center of a 16x16 maze programmed in **C++**. designed schematic and PCB from scratch using **Eagle**, and developed maze-solving algorithms with **Arduino**.

#### GravityFall

Jump and reverse gravity your way through dangerous dungeons to find treasure. built from the ground up in **Unity**, and scripted with **C#**. Winner of **Best Game** at **Hack on the Hill 5 @UCLA**.

#### StencilMe

App that uses the **iOS ARKit API** to display a user image on a flat surface of their choice, removing the need to carry around or create physical stencils to replicate their hand-drawn images. built with **iOS SDK** in native **Swift**.

### EMPLOYMENT

InTouch Health | Provider Access Software  
Software Engineering Intern - iOS  
June 2019 to Current

At InTouch Health, I worked on the Provider Access Software (PAS) team, delivering thousands of lines of Objective-C code to our enterprise Telehealth iOS application at next update, impacting 10,000+ endpoints in healthcare locations such as Mayo Clinic and Yale-New Haven Health System. I worked with design and our clients to achieve parity with our desktop PAS application and deliver new impactful features with sharing media during Telehealth sessions.

#### Responsibilities include:

- Implementing WebRTC signalling during audio/video sessions designed to operate in conditions of up to 30% packet loss (common in hospitals)
- Building in-call image sharing platform used by medical professionals during Telehealth sessions occurring over 5,000+ times every day
- Led design review to manage the impact of integrating Swift into a primarily Objective-C and C++ app ecosystem in order to leverage power Swift features such as enums with associated values

Logos News LLC | Mobile Team  
Software Development Intern  
Nov. 2018 to May 2019

Logos News is a social media platform combining professional journalism techniques with machine learning to combat political biases in newsfeeds and help users become more politically aware. I led front-end and back-end efforts to completely redesign the structure of our Firestore Realtime Database and our calls to the Firestore API written in Swift for our user-facing iOS application.

#### Responsibilities include:

- Designing back-end Firestore Realtime Database structure to be wider and more shallow, allowing for less calls to Firestore API, reducing newsfeed refresh latency by over 200ms
- Dispatching calls to write and fetch data from Firestore to update cache and render UI components in Swift
- Developing user and article engagement mapping feature using Google Maps API

### SKILLS

**TECHNICAL SKILLS:** Objective-C, Swift, iOS SDK, C++, C, JavaScript, React, Express, Python, Django, Git, Perforce, Bash