

# Dylan Kan

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## EDUCATION

University of Texas at Austin, B.S. in Computer Science, GPA: 3.6/4.0 Expected Graduation: Dec 2020

## RELEVANT COURSEWORK

- **Computer Science:** Data Structures, Algorithms, Operating Systems, Computer Organization and Architecture, Software Engineering, iOS Mobile Computing, Competitive Programming, Compilers, Programming for Correctness and Efficiency, Programming Languages, Discrete Math
- Calculus-based Probability, Applied Statistics, Linear Algebra, Mathematical Statistics, Business Finance

## LANGUAGES

- Ordered by proficiency: (best) Java, Python, C, C++, Swift, HTML/CSS, JavaScript, SQL, Haskell, R

## WORK EXPERIENCE

### USAA – Actuarial Pricing Analyst Intern

May 2019 – Aug 2019

- Went beyond the scope of the internship and wrote **Python** code to transform the 6-week process of a state review into a 30-minute runtime, presented the tool to actuarial pricing directors.
- Saved the company roughly **one million** dollars a year in employee wages from the efficiency improvement, as the tool is now being implemented as a total replacement for the previously manual process.
- Completed and presented a state review to accurately re-price factors affecting auto insurance premiums in Missouri, put into effect in 2020.

### Everi Holdings – Mathematician Intern

Jun 2018 – Aug 2018

- Developed and presented a **Python** tool using **NumPy** and **Pandas** to facilitate creation of probability distributions for “prize-first” slot machine games.
- Performed statistical analyses of payout distributions and worked with other professional mathematicians to create and manage a functional model for prize-first slot games.

## PROJECTS

### Tic-Tac-Toe iOS App(2020):

- Allows for solo and multiplayer mode, as well as a match history and sharing games to social media.
- Tracked active game codes, board states, and players in **Firestore**, and stored match history in **Core Data**.
- Presented sound clips on button presses and on win or loss using **AVFoundation**.
- Written in **Swift** and used **CocoaPods** to manage dependencies.

### ParksProtection (2020):

- Designed a website which expanded on the tools used for the Capital One SES project below.
- Includes three dynamically loaded model pages which fetch instances from their respective API calls.
- Used **AWS**, **Python**, **Javascript**, **MySQL**, **Docker**, **Flask-Restless**, **SQLAlchemy**, and **Postman**.
- Worked with a small team and tracked issues and CI/CD pipelines with **GitLab**.

### Capital One Fall 2019 Software Engineering Summit

- Designed a website with **Bootstrap** which serves as a park wiki using the National Park Service API.
- Attended workshops throughout the week over topics such as **iOS**, **Android**, **React**, **Firestore**, and **AWS** and applied these skills at the end of the week for a 24-hour hackathon.

### Sort-A-Trash (2019):

- Created a hardware hack to visually sort waste using an Arduino servo into trash, recyclables, and compost.
- Utilized **Object-Detection-React** to detect objects and **IBM Cloud** to host vision models to train machine learning model from scratch using over 1700 images.

### PotatOS (2019):

- Built a functional OS with the class that had a heap, threads, preemption, virtual memory, and a filesystem.
- Worked in **C** and **C++** to expand the file system by adding i-node fields, block groups, and a buffer cache.
- Improvements allowed for storage of larger files and faster reading from and writing to disk and let us accomplish the overarching goal of running DOOM.