# Dylan Kan

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## EDUCATION

**University of Texas at Austin,** B.S. in Computer Science, GPA: 3.6/4.0 Graduated 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, Neural Networks, Modern Web Apps, Network Security and Privacy
- 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 a **Python script** using **NumPy** and **Pandas** to transform the 6-week process of a state review into a 30-minute runtime and presented the tool to 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 library** with methods 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 **Firebase**, 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**, **Firebase**, 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.