Dylan Kan

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EDUCATION

University of Texas at Austin, GPA: 3.5/4.0   Expected Graduation: Dec 2020

B.S. in Computer Science

RELEVANT COURSEWORK

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

SKILLS

- Languages: Java, Python, C, C++, HTML/CSS, JavaScript, SQL, Haskell, R

WORK EXPERIENCE

<u>USAA – Actuarial Pricing Analyst Intern</u>   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 a 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.

<u>Everi Holdings – Mathematician Intern</u>   Jun 2018 – Aug 2018

- Developed and presented a **Python** tool 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

<u>ParksProtection (2020):</u>

- 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**.

<u>Mini Javascript (2020):</u>

- Used **Haskell** and **Happy** to build a miniature version of Javascript consisting of a parser and monad definitions and supports record objects, basic variables, and function definitions.

<u>Capital One Fall 2019 Software Engineering Summit</u>

- 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**.

<u>Sort-A-Trash (2019):</u>

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

<u>PotatOS (2019):</u>

- 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.

<u>Pascal Compiler (2019):</u>

- Used **C** and **Yacc** to build a compiler that consisted of a lexical analyzer, a parser, and an assembly code generator for Pascal code.