

# Tung Truong

SOFTWARE ENGINEER · RESEARCHER

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## Education

### Boston University

BACHELOR OF ARTS IN COMPUTER SCIENCE, DOUBLE MINOR IN CHEMISTRY AND BIOLOGY

GPA: 3.47

Boston, MA

Expected Jan 2021

### Relevant Coursework

• Software Engineering • Full Stack Development • Mobile App Development • Intro to Artificial Intelligence • Analysis of Algorithms

## Experience

### Suffolk County District Attorney's Office

BACKEND DEVELOPER

Boston, MA

Jan 2020 - May 2020

- Developed a mobile application using Swift and Flask to digitize 11 years of paper legal documents, enabling the DA's Office to start analyzing significant trends, which directly contributed to the implementation of policies that reduced incarceration rates.
- Utilized Google's OCR to convert over 10,000 legal documents to .txt files, from which sensitive information was extracted via regular expression matching and stored into a relational database, decreasing daily data entry workload by 2 hours per person.
- Enhanced code base maintainability by refactoring project code to follow MVC paradigm providing readability and structure, and by redesigning SQL database schemas to normalize tables, reducing data redundancy and enabling complicated querying.
- Executed test driven development and abstraction to test legacy code and to implement new features.

### Boston University Spark!

FRONTEND DEVELOPER

Boston, MA

Jan 2020 - May 2020

- Created web application in React and Django that helped facilitate the online search for on-campus events and clubs.
- Designed wireframe based on market research and then redesigned based on consumer feedback to optimize user experience.
- Surged membership count and outreach potential of small clubs by increasing their visibility through features such as a tag/filter system, club recommendation system, and a slideshow that cycles through featured clubs of the week.
- Improved user experience by automatically mapping their class schedules and Google calendars into a personalized user profile which allows the application to display only the clubs and events that are scheduled during their free time.

## Projects

### Quarantine Exercise

- Employed Java and Android Studios to create a mobile application that enables users to exercise with various difficulty levels.
- Expanded app versatility by incorporating simulated training weights that allows user to increase force needed to count as a rep.
- Increased user enjoyment by integrating a reward system that plays music and strobe lights after user hits a certain rep count.

### Travelers

- Created an Angular and NodeJS web application that matches user to a travel destination based on their music preferences.
- Implemented weather forecast feature to provide the user key information to plan their travels enhancing user experience.
- Designated scrum master and coordinated with teammates to set up an agile/scrum environment boosting productivity.

### Optimized Space Invaders

- Trained AI using Deep Q-learning to play Atari's Space Invader utilizing Python and machine learning frameworks.
- Fixed perceptual aliasing and ensured temporal continuity by pre-processing and stacking frames with PIL and numpy.
- Generated AI decision making through the greedy epsilon approach and a Q-table ensuring the AI makes the most optimal move.
- Achieved a high score of 840 points beating the human average, 372, by a factor of 2.26.

### Discrete Event Simulator

- Devised system scheduling simulator using Java to mimic a wide range of real life scenarios through use of numerous scheduling methods accounting for varying service times, arrival rates, number of processors, and data handling procedures.
- Analyzed system performance metrics and run times of various data structures employing the most suitable that imitates caches crucial for meeting task deadlines, successfully avoids scheduling deadlocks, and schedules in the most efficient time.

## Technical Skills

**Programming Languages:** Python, Java, Javascript, C, OCaml

**Web and Mobile Development:** React, React Native, Redux, CSS, HTML, Flask, ExpressJS, NodeJS, Android Studios, Git/Github

**Database Systems:** MongoDB, SQL