

# Brandon Yuan

(512) 413-6692 • brandonyuanCS.github.io • brandonyuan05@gmail.com

## EDUCATION

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### Texas A&M University

Bachelor of Science in Computer Science

Honors Student @ College of Engineering

College Station, TX

May 2027

Cumulative GPA: 3.82/4.00

## WORK EXPERIENCE

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### Project Manager

VibeMap for Spotify | React.js, React-force-graph, TypeScript, SciPy, Flask, Spotify API, PostgreSQL

College Station, TX

September 2024 – Present

- Conducted in-depth analysis with frequency data provided by Spotify's API, as well as extracted unique features in songs not typically considered by Spotify's recommendations
- Generated detailed classifications of different tracks, vectorizing results to find similarities between songs, playlists, and users
- Visualized data through a web (using **D3.js** & **react-force-graph**), enabling users to explore connections between songs

### Research Assistant

Texas A&M Department of Construction

College Station, TX

August 2024 – Present

- Utilized datasets from **8 construction companies** to train, test, and tune different machine learning models (decision tree, random forest, regression) to accurately predict employee absenteeism within construction workforces
- Led feature engineering** for commute time & weather details with historical data from APIs
- Refactored databases from **3 companies** to improve the efficiency of our machine learning pipeline
- Collaborated with a professor to report insights to the respective companies and the Aggie Research Program

### Project Manager

Notes with Canvas | React.js, Axios, JavaScript, Python, Flask, Canvas API, Firebase

College Station, TX

September 2023 - May 2024

- Won **"Best Learning-Focused Project"** from among **36 other projects** in the Aggie Coding Club
- Developed a task-management web app, featuring integration with Canvas to dynamically populate calendar & task board interfaces, with the support of a Firebase-hosted Flask server that returned JSON data from users' Canvas courses
- Coordinated a **15-member** team through **9 Agile sprints**, designed & divided tasks between frontend/backend teams

### Research Collaborator

Texas A&M Department of Computer Science

College Station, TX

September 2023

- Participated in a research study which examined group collaboration between students solving LeetCode problems
- Focused on algorithm design, debugging, and optimizing runtime and space complexities of solutions

## PROJECTS

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### Red Dead Convolution | PyTorch, TensorFlow, OpenCV, NumPy

September 2023 - December 2023

- Designed and trained an image classification model on **500+** in-game screenshots from the video game *Red Dead Redemption II*, achieving **87% detection accuracy** through model finetuning
- Collaborated with a **team of 30+** to augment datasets (using OpenCV), then developed a convolutional neural network to classify different objects (e.g. horses & cowboys) by extracting shapes, pooling layers, and then connecting them

### Chess Mobile App | C#, .NET, SQLite, Xamarin.Forms

January 2023 – May 2023

- Developed a fully functional chess application using Xamarin.Forms and .NET, incorporating an SQLite engine for settings management and game data storage
- Collaborated with **2 other students** to complete the project under a **3-month timeline** via **6 Scrum sprints**, handling key features like multiplayer mode and AI opponent

## SKILLS, ACTIVITIES & INTERESTS

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**Technical Skills:** Python, C++, Java, C#, TypeScript, HTML & CSS, React.js, Flask, PyTorch, PostgreSQL

**Areas of Focus:** Web Development, Convolutional Neural Networks, Data Analysis, Machine Learning

**Relevant Courses:** Data Structures & Algorithms, Design & Analysis of Algorithms, Linear Algebra, Computer Organization