

# Maximus Hayes

✉ maxhayess17@gmail.com ☎ 267-961-8776 🌐 github.com/maxhayes17

## Education

**Computer Science, Data Science, B.S.,** *University of Pittsburgh*  
with Minor in Applied Statistics | **GPA:** 3.96

2021 – present  
Pittsburgh, PA

## Projects

### ADMT Weather Chatbot, *Undergraduate Research Project*

Jan 2024 – Apr 2024

Created full-stack chatbot web application allowing users to generate SQL queries using natural language prompts, execute SQL on a weather database, and receive responses in natural language format along with a graphical visualization component if appropriate

- Used React, NodeJS, TailwindCSS for stateful frontend, D3.js for visualizations
- Used Python, Flask for API backend to communicate between LLM, database and frontend
- Used OpenAI API Library to generate SQL queries, process natural language responses, and test performance with various LLMs
- Used PostgreSQL to host database, Docker for containerization and deployment

**Skills:** AI, Prompt engineering, Data visualization, Docker, Python, Flask, React, SQL

### Muve

Sep 2023 – Dec 2023

Created full-stack mobile application for composing, exploring and sharing workout routines comprised of exercises with hand-picked music to go alongside them

- Followed MVVM architecture, separating business/presentation logic from user interface
- Used data binding throughout application for dynamically updating frontend
- Used Last.fm API for music searching and sourcing when composing routines
- Used Firebase/Cloud Firestore to store routines across users and sessions

<https://github.com/maxhayes17/Muve>

**Skills:** Flutter, Dart, UI/UX design, Firebase

### TwitClone

May 2023 – Sep 2023

Created full-stack web application mimicking features of social media platform X

- Includes custom profiles, followers, text/media posts, likes/replies to posts, hashtags and user/hashtag search
- Used MongoDB to hold NoSQL data entries, ExpressJS to handle backend server requests to database
- Used React to create frontend and NodeJS to host services together
- Used TailwindCSS for frontend styling

<https://github.com/maxhayes17/TwitterClone>

**Skills:** MongoDB, Express, React, NodeJS, Redux, TailwindCSS

### Budget Manager

Created simple full-stack budget web application with fully RESTful API backend

- Used Python, Flask to create backend and handle REST API requests, sending JSON data between client/server
- Used SQLAlchemy for SQL database modeling and querying
- Used JavaScript, React on frontend

**Skills:** Python, Flask, React, SQL, SQLAlchemy

## Skills

### Languages

Java, Python, JavaScript, C, R, SQL, Rust, Dart

### Frameworks

Git, React, MongoDB, Flutter, Flask, Firebase, Pandas, NumPy, Scikit-learn, OpenAI, Docker, TailwindCSS

## Work Experience

### Undergraduate Student Researcher, *Advanced Data Management Technologies Laboratory*

Jan 2024 – present  
Pittsburgh, PA

- Led the weather chatbot project as the sole developer of the codebase, overseeing all aspects of development.
- Collaborated with other students specializing in AI and Language Models (LLMs), conducting research on the capabilities of natural language to SQL generation
- Contributed to the advancement of knowledge in the field of natural language processing and AI through active participation in research and experimentation