Ivan Pan

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Education

Rutgers University–New Brunswick — New Brunswick, NJ
Bachelor of Science in Computer Science — *Sep. 2022 – Anticipated Jan 2026*

- **GPA:** 3.91/4.00
- **Awards and Honors:** Dean's List, Dean's Scholarship, Dean's Promise, School of Arts & Sciences Honors Program

Experience

Hunan Express — Sep. 2024 – Present
Fullstack Developer Intern — *Bergenfield, NJ*

- Developed a full-stack restaurant ordering app with ***React.js*** and ***Next.js***, improving operational speed by at least **10 minutes** per order and eliminating the need for constant order monitoring.
- Integrated the app with the POS system, automating order printing after payment verification to streamline workflows and reduce manual tasks.
- Used MongoDB for data management, increasing monthly profits by **10%** through optimized order processing and reduced dependency on third-party services.

Open Source | Scikit-learn, Pandas — Sep. 2024 – Present
Contributor, Documentation, Debug — *Remote, Github*

- Updated the documentation for class methods in sklearn/clusters/, enhancing clarity and detail to improve usability for users and developers
- Created and refined user guides and example usages to improve understanding of the _dbscan.py and _affinity_propagation.py clustering algorithms.
- Performed forks and created new branches for efficient pull request handling, familiarized with ***Git version control*** in a team environment.

Projects

AI League Matchup Analysis | *Python, Flask, Scikit-learn, PostgreSQL, Jupyter, Pandas, Numpy*

- Engineered AI models using ***Scikit-learn***, ***XGBoost***, ***Neural Networks***, and ***Randomforest***, predicting pre-match outcomes, achieving an accuracy of **60%**, equipping players with a **10%** competitive edge per match.
- Streamlined data collection into efficient pipelines using ***API Requests***, ***BeautifulSoup***, ***Pandas***, and ***NumPy*** in ***Jupyter Notebook***, saving performance time by **15+** seconds.
- Constructed a scalable web application utilizing ***Flask***, ***HTML/CSS***, and ***JavaScript***, ensuring efficient database operations with ***PostgreSQL*** and ***SQLAlchemy***, allowing smooth client access to AI functionalities.

Webchat-Games | *Python, JavaScript, HTML/CSS, Flask, SocketIO, SQLAlchemy*

- Developed a real-time web application enabling users to connect, chat, and play classic games, utilizing Flask, ***Jinja2***, and ***Flask-SocketIO*** for an interactive user experience.
- Implemented user authentication with ***Flask-Login***, ***JWT Security***, and ***Flask-Sessions***, managing user data employing ***SQLAlchemy***, ensuring a secure and error-free connection.
- Adopted object-relational mapping by designing a relational database in ***SQLite*** and leveraging Fetch for ***HTTPS requests*** improving client data experience.

Anime-Recommendation-Site | *Python, JavaScript, React, Flask, Jupyter, Flask-JWT*

- Designed an Anime recommendation system using Flask for the backend and React for the front end, featuring custom ***API endpoints***, ***JWT cookie authentication***, and an efficient search algorithm that takes less than **1-second** traversing through **37,000 anime shows** and returns personalized recommendations.
- Implemented multi-page rendering with React ***Router*** and search functions for database querying using ***Axios*** for seamless API communication, reducing load speed and increasing page responsiveness.
- Employed ***Jupyter*** for anime data processing and algorithm developments such as **collaborative filtering** to give tailored recommendations from their previously viewed shows.

Technical Skills

Languages: Python, C/C++, Java, JavaScript, HTML/CSS, Bash, SQL, R
Frameworks/Developer Tools: Flask, Django, Next.js, React.js, Node.js, Git, Docker, VS Code, PostgreSQL, MongoDB, IntelliJ, AWS, Vercel
Concepts: Database Design, Data Structures, Algorithms, Machine Learning, AI Modeling, Data Analysis, Computer Systems, Full-Stack, Backend, Frontend, Version Control
Libraries: TensorFlow, Scikit-learn, Pandas, Numpy, JWT, Redis, Celery, Requests, BeautifulSoup, Axios