Steve Wang

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SKILLS

Expertise: Full-stack Development, Cloud Computing, Data Engineering, Machine Learning, Embedded Systems.
Languages & Tools: Python, Java, JavaScript, C, C++, C#, SQL, Bash, PostgreSQL, Redis, Docker, Git, Figma.
Frameworks & Libraries: AWS, React, Django, Flask, Spring Boot, NumPy, Pandas, Scikit-learn, TensorFlow, PyTorch.

EXPERIENCE

arXiv.org, Ithaca, NY. Sept. 2024 – present
Volunteer Contributor
- Developing a field classification system for research papers using large language models (LLM), reducing user error rate and moderator overhead.

Amazon Web Services (AWS), Seattle, WA. Jun. 2024 – Aug. 2024
Software Development Engineer Internship
Tech Stack: Python, AWS (Lambda, Fargate, S3, DynamoDB, Redshift, IAM), Docker, Boto3, AWS CDK.
- Designed and implemented a comprehensive business data forecasting service, improving planning accuracy for AWS Snow customers by addressing the limitations of existing estimation tools.
- Developed a machine learning model to predict lead times across various percentiles, utilizing feature engineering techniques like survival analysis and lag features to address problem-specific challenges.
- Built and deployed pipelines for weekly model retraining and daily batch predictions, ensuring the model stayed accurate with both long-term and short-term data.
- Collaborated with internal stakeholders and a UX designer to create a Slack bot interface that improved user accessibility and aligned with customer needs.

Graph Mining Group at Emory University, Atlanta, GA. Sept. 2022 – Jan. 2023
Undergraduate Research Assistant
- Helped create various medical and pharmaceutical training datasets for graph machine learning models.

PROJECTS

Here's a revised and reconstructed version with minimal overlap between items:

Database System from Scratch (CS 4321: Practicum in Database Systems). Ithaca, NY. Sept. 2024 – present
- Solely implemented a static SQL processing system with 7,500+ lines of Java code, featuring a SQL query plan builder and modular architecture for extensibility.
- Developed core functionalities, including efficient data processing algorithms such as external sorting, block nested loop joins, sort-merge joins, and B+ tree indexing for rapid data access.
- Ensured system reliability and performance through rigorous unit and integration testing, utilizing large-scale random data generation and benchmarking serialized I/O workflows.

TracCrop: Master's Degree Capstone Project. Ithaca, NY. Oct. 2023 – May 2024
Tech Stack: JavaScript, Python, React, Django, SQL, Redis, Azure.
- Maintained and enhanced an agriculture business and data management platform for North American farmers, streamlining chemical usage, policy compliance, and workforce and task management within a unified system.
- Implemented specialized workflow controls and data visualization features based on customer feedback. Developed the front-end interface and corresponding RESTful web services, enhancing agricultural management efficiency.
- Developed an automated ETL pipeline to regularly update reference data from public chemical and agricultural sources, ensuring database accuracy and maintaining up-to-date information.

Interactive LED Clock (Embedded System Course Project). Ithaca, NY. Nov. 2023
- Built an interactive LED clock using a Raspberry Pi, displaying across three LED panels with dynamic orientation and effects from a gyroscopic sensor.
- Added features like gravity-based orientation, snowflake effects, and an alarm interface controlled by physical buttons.
- Developed a custom inter-process FIFO driver for efficient pixel data transfer and real-time updates, enabling smooth performance and animations.

Multiplayer Rogue-like Game (Software Engineering Course Project). Atlanta, GA. Sept. 2022 – Dec. 2022
- Collaborated with a team of five using Scrum to develop an online, multiplayer, rogue-like pixel game where players control a ghost that can possess enemies.
- Created procedurally generated dungeons with prefab-based rooms and corridors for unique level designs.
- Developed custom enemy behaviors, interactive logic, and animations, enhancing game difficulty and player engagement.

EDUCATION

Cornell University, Ithaca, NY. Sept. 2023 – Dec. 2024 (expected)
Master of Engineering in Electrical & Computer Engineering, GPA: 3.6/4.0.

Emory University, Atlanta, GA. Sept. 2021 – May 2023
Bachelor of Science in Mathematics & Computer Science, GPA: 3.6/4.0.

AWARDS & ACHIEVEMENTS

Bronze Medal, Top 8% (69/937), Lyft Autonomous Vehicles Motion Prediction, Kaggle Competition. Nov. 2020