Stephen Pan

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Computer science graduate with experience working with object oriented programming, data structures, algorithms, and web applications. Looking for entry level roles where I can put my skills to use as well as grow and learn from experienced professionals. Excellent problem solving abilities and a quick learner with great communication skills.

SKILLS

Languages: Python, Java, C, SQL, Typescript, React
Technologies: PostgreSQL, AWS, Git, JUnit, Unix, TailwindCSS, Next.js
Courses Taken: Discrete Math, Data Structures and Algorithms, Software Development, Database Design, Web and Text Retrieval, Machine Learning
Bilingual: English & Elementary Level Chinese

WORK EXPERIENCE

Astrophysical Research Consortium **December 2025-Present**
Control and Operations Software Intern *Alamogordo, NM*

- Improving and maintaining the Boson observer graphical user interface by enhancing the application's functionality by collaborating with observers from APO and LCO to identify and prioritize key features.
- Designed new applications windows, implementing core functionalities, and conducting functional testing using **React and Typescript**, allowing astronomers to easily view telescope status at a glance, building off of an already existing codebase.

Apache Point Observatory **June 2025 - Present**
Software Developer Intern *Alamogordo, NM*

- Developed a web application using **Python Flask and Postgresql** to allow employees to manage and upload their night log, streamlining the process while allowing ease of use and accessibility by rewriting the system from an older version, reducing the number of windows by 60%.
- Gathered user requirements to ensure the final product meets the user's needs, and ensures that users can smoothly transition from the old platform to the new application, using **CSS, HTML, and Javascript** to replicate the older format with a new front end.

New Mexico Tech **June 2023 - August 2023**
Undergraduate Researcher *Socorro, NM*

- Worked closely with the supervising professor, setting weekly objectives and addressing challenges in implementation
- Developed several semi-supervised machine learning models using Python libraries such as **PyOd** to detect electricity theft
- Collaborated with a team to present our project on electricity theft detection using the machine learning model

University of Arizona Department of Computer Science **August 2022 - May 2025**
Senior Teaching Assistant *Tucson, Arizona*

- Demonstrated knowledge of **Python and Java** in order to best help students understand how to implement their code in projects
- Assisted in grading assignments, projects, and exams, ensuring consistency and fairness in evaluations.
- Led weekly labs and office hours, providing guidance on programming concepts, algorithms, and debugging techniques.

EDUCATION

University of Arizona
Bachelor of Science in Computer Science, Minor in Information Science and Arts
Tucson, AZ

PROJECTS

Fate/Grand Order Damage Simulator **November 2024- Present**
Personal Project

- Built a Java Spring Boot application that makes use of an AWS SQL server to fetch and store detailed character information in a PostGreSQL database.
- Designed the database schema, including tables for character profiles, attributes, and relationships.
- Implemented the game formula to calculate damage according to status effects

Detection of AI Generated Essays **September 2024 - December 2024**

Academic Project - Available at Request

- Developed a natural language processing pipeline to classify essay responses using Hugging Face's transformers and the datasets library.
- Preprocessed and merged multiple labeled datasets, standardizing formats and cleaning unnecessary metadata for model readiness.
- Engineered features and labels for binary classification tasks; evaluated model performance using metrics such as ROC and AUC.

Enhancing the Performance of Semi-supervised Electricity Theft Detection in Smart Grids with Feature Engineering and Ensemble Learning **May 2023 - August 2023**

Research Paper - https://ieeexplore.ieee.org/document/10676305

- Reviewed and validated semi-supervised models in Python to detect electricity theft using libraries such as **PyOd, Numpy, and Pandas**
- Built ensemble models from semi-supervised models and compared performances with normal models
- Discovered the best model to detect electrical theft from meter readings
- Co-authored a published paper about project findings and methodology

Achievements/Responsibilities

University of Arizona Wildcat Gaming Club **July 2022 - May 2023**

Events Director and Developer

Tucson, Arizona

- Led a team to run events for club members
- Worked with leadership in order to effectively manage their vision for club events
- Maintained the server bot and developed new features for said bot

University of Arizona Wildcat Gaming Club **May 2023 - July 2024**

President *Tucson, Arizona*

- Collaborated with fellow club leaders to expand the club's reach and impact
- Delegated responsibilities to team members for both in-person and online events
- Managed daily operations for a club with over 2,800 members
- Established partnerships with other university clubs and gaming companies to provide opportunities for club members

Awards

Written in Red Scholarship **August 2021 - May 2025**

University of Arizona Tuition Award **August 2021 - May 2025**

National Merit Finalist Scholarship **August 2021 - May 2025**

References available upon request