Pongpatapee (Dan) Peerapatanapokin

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Experience

Cummins Inc. Aug 2023 – Present
Application Analyst *Ladson, SC*
- Engineered a new Python-based traceability system, enabling cloud access to critical assembly line data for other functions
- Enhanced data processing/upload speed of machine-generated files by 30x with the new traceability system
- Developed a React webpage to display and log machine button presses, aiding in hardware assessment of button durability
- Created a requirement tracker with Jira integration, automating issue logging and enhancing team productivity
- Engage in Agile practices, including daily stand-ups, sprint planning, and retrospectives

Google x Purdue Jan 2022 – May 2023
ML Undergraduate Researcher *West Lafayette, IN*
- Contributed to open-source by working with Google to implement Computer Vision models for TensorFlow Model Garden
- Collaborated with Google engineers, fellow students, and professor to implement YOLOX, YOLOv7, and Mask2Former
- Co-led a team of 3-8 members, created project timelines, broke down the architecture of models, and delegated tasks
- Presented at Undergraduate Research Conference on engineering challenges in machine learning reproducibility

Interos Inc. Jun 2022 – Aug 2022
Software Engineering Intern | Backend & API Team *Remote*
- Resolved critical production bugs at API endpoints in FastAPI, ensuring customer data isolation and consistency
- Enhanced CI/CD pipeline by resolving Docker-in-Docker issue, resulting in ∼15% reduction in test execution time
- Developed test cases for API endpoints using Pytest, utilizing mocking and fixtures to simulate and isolate components
- Implemented CSV bulk export feature for customer and supplier data using Prefect Flow, a workflow orchestration tool

Purdue University Jan 2022 – May 2022
Undergraduate TA *West Lafayette, IN*
- Mentored a class of ∼300 students with Data Science and Python concepts such as Data Visualization, Hypothesis testing, Regression, Clustering, Classification, Training and Testing datasets, Regex, etc.

National Science and Technology Development Agency Jun 2021 – Aug 2021
Software Engineering Intern | Data/ML Team *Pathum Thani, Thailand*
- Reviewed literature on real-time COVID detection from exhaled breath using electronic noses
- Visualized and analyzed correlation of gas sensors from the electronic nose using Seaborn, Matplotlib, and Pandas
- Trained KNN and Logistic regression models to classify scent data with over 90% accuracy
- Simplified analysis and training process for non-programmers by developing a GUI using Tkinter in Python

Publications

Discrepancies among Pre-trained Deep Neural Networks Jan 2022 – May 2022
Purdue University, ESEC/FSE 2022 Publication *West Lafayette, IN*
- Investigated the reliability of Pre-Trained Neural Networks(PTNN) provided by TensorFlow, ONNX, Torchvision, and Keras
- Measured discrepancies between Accuracy, Latency, and Architecture of 36 PTNNs across the above 4 model zoos
- Discovered architectural mismatches in well-known networks, along with variances in accuracy and latency of the same PTNNs across different model zoos

Projects

ParSyll | *Python, JS, FastAPI, React, Firebase, Docker, GitHub Actions, AWS EC2*
- Created an open-source tool to automate syllabus reading; aiding students with early semester planning and organization
- Designed and developed a full-stack web application, utilizing GPT for syllabus parsing, enabling users to upload documents and generate important class information along with downloadable calendars
- Deployed, documented, and containerized the application with Docker on EC2, ensuring proper licensing and usage guidelines

Trustworthy NPM Registry | *Python, Flask, GCP, GitHub Actions*
- Created an API service for users to grade NPM modules and keep track of "Trustworthy" NPM modules in a registry
- Automated tests and deployment to GCP using GitHub Actions, resulting in a ∼30% reduction in development time

Technical Skills

Languages: Python, JavaScript, Golang, C#, HTML/CSS, C/C++, SQL
Frameworks: FastAPI, Pytest, ReactJS, Tailwind, Node.js, TensorFlow, PyTorch, SKLearn, ASP.NET, SQLAlchemy
Developer Tools: Git, GitHub, GCP, Postman, Docker, Linux, Neovim, Firebase, MongoDB, Snowflake, MSSQL, Postgres, CI/CD

Education

Purdue University West Lafayette, IN
B.S. in Computer Engineering **(GPA: 3.84/4.0)** *Aug 2019 – May 2023*
- **Semester Honors & Dean's List** – (8/8) Semesters
- **Relavent Courses:** Software Engineering, Data Science, OOP, DS & Algo, AI, Networking, OS, Open-Source Software