Pongpatapee (Dan) Peerapatanapokin

ppeerapa1021@gmail.com | (765)714-8805 | GitHub | LinkedIn | Portfolio

Education

West Lafayette, IN **Purdue University** **Aug 2019 – May 2023**

- **Major:** B.S. in Computer Engineering, **(GPA: 3.83 / 4.0)**
- **Minor:** Mathematics
- **Semester Honors –** (6/6) Semesters **Dean's List –** (6/6) Semesters
- **Relevant Courses:** Advance Software Engineering, DS & Algo, OOP C++, Digital Sys Design, AI, Networking

Employment

Google - TensorFlow Model Garden

ML Undergraduate Researcher **(Purdue University)** **Jan 2022 – Present**

- Collaborating with Google to develop and reproduce exemplar implementation of cutting-edge ML models and algorithms to contribute to the TensorFlow Model Garden
- Leading the YOLO team to reimplement the YOLOX computer vision model from the original paper in TensorFlow

Software Engineer, Intern (Backend) **Interos Inc.** **Jun 2022 – Aug 2022**

- Worked in a Scrum team to improve and maintain Backend & API infrastructure
- Addressed regular production bugs in the Backend (Python - FastAPI, DB - Snowflake) using Jira/Kanban
- Fixed and improved Postman tests in CI pipeline by ~30% by optimizing docker to run directly from the image
- Allow for future bulk CSV exports by refactoring/combining Prefect Flow tasks

Undergraduate TA **Purdue University** **Jan 2022 – May 2022**

- Assisted a class of ~300 students with Data Science and Python concepts such as Data Visualization, Hypothesis testing, Regressions, Clustering, Classification, Training and Testing datasets, Regex, etc.

National Science and Technology

Software Engineer, Intern (Data/ML) **Development Agency** **Jun 2021 – Aug 2021**

- Researched COVID trends and detection methods with Electronic Noses
- Visualized, analyzed, and trained KNN and Logistic regression ML models to classify scents from electronic nose data with over 90% accuracy
- Simplified analysis and training process for non-programmers by developing a GUI using Tkinter in Python

Undergraduate Researcher **Purdue University** **Jan 2020 – May 2020**

- Lead android app developer for the Optical Character Recognition (OCR) application
- Improved OCR accuracy by ~15% by using Image pre-processing techniques with different convolution filters such as Edge Detection, Edge Enhancement, De-skewing, and Thresholding

Publications

Discrepancies among Pre-trained Deep Neural Networks *(ESEC/FSE 2022 Publication)*

- Researched and aggregated various computer vision model implementations across different model zoos
- Tested, analyzed, and compared Accuracy, Performance, and Architecture of models of different zoos against the original paper
- Compiled any significant discrepancies and/or findings for each model from each zoo's implementation

Projects

Trustworthy Module Registry *(ECE 461 – Software Engineering)*

- Designed and developed an automatic grading system for NPM modules to characterize their trustworthiness in Python
- Developed and deployed authenticated REST API in Flask to GCP, to interact with the "Trustworthy Module Registry"
- Developed a Pytest test suite consisting of Coverage, Unit, and End-to-end tests
- Sped up development by ~30% by automating tests and deployment using GitHub Actions for CI/CD

Litter Detection AI *(EcoMake Hackathon 3rd Place)*

- Develop a camera litter detection system that maps the location of detected litter around the Purdue campus
- Utilized Azure Computer Vision AI to detect litter by sending images from a Raspberry Pi
- Visualized litter coordinates on a website with Google's Geolocation API and a React front-end

Skills

- **Languages:** Python, JavaScript, HTML/CSS, SQL, C, C++
- **Frameworks:** FastAPI, Flask, Pytest, NodeJS, Express, ReactJS, Tailwind, TensorFlow, SKLearn, SQLAlchemy
- **Tech:** Git, GCP, CI/CD, Postman, Docker, Linux, Vim, Firestore, MongoDB, SnowFlake, Prefect