Ryan Kwong

408-712-7557 | **ryankwong478@gmail.com**

Relevant Links: Personal Website | GitHub | LinkedIn
Programming Languages: Python, Java, JavaScript, C, C++, SQL, C#, HTML, CSS, R, Bash
Technologies: Git, React, Django, PostgreSQL, Linux, Flask, JUnit, MongoDB, Node.js, Selenium, MySQL, AWS, Docker

EDUCATION

Purdue University - West Lafayette **May 2025**
BS in Computer Science *GPA: 3.9/4.0*

- Concentrations: Machine Intelligence (AI/ML), Databases and Information Systems
- Courses: Analysis of Algorithms, Relational Database Systems, Data Mining and Machine Learning, Computer Security, Data Structures and Algorithms, Systems Programming, Object-Oriented Programming, Statistical Methods
- Awards: Purdue CS Endowment Scholarship Award

EXPERIENCE

Capital One **Richmond, VA**
Incoming Software Engineering Intern June 2024 - August 2024

Minitab **State College, PA**
Software Engineering Intern January 2024 - May 2024

- Developed a chatbot using React and Flask that guides users through the Minitab app and explains data visualizations
- Experimenting with verifier chatbots to verify if the main chatbot is outputting reliable information

NASA **Greenbelt, MD**
Software Engineering Intern August 2023 - December 2023

- Fall 2023 Intern for NASA's AR/VR R&D Team, focusing on developing the Mixed Reality Exploration Toolkit
- Simulating space exploration using Unity and C# to increase awareness and safety for real space voyages
- Integrating Generative AI using Diffusion and GANs with PyTorch and CUDA to generate realistic 2D lunar images
- Transforming 2D lunar images into 3D models (point clouds) using depth maps created using OpenCV to construct 3D space terrain in the VR space

Tesla **West Lafayette, IN**
Data Science Researcher - The Data Mine (Purdue University) August 2023 - May 2024

- Developed an internal tool to determine the flowrate of physical parts from production stations in an Agile environment
- Leveraged Python, LSTMs, and SQL to predict and verify flowrates of materials between factory lines
- Compared LSTM model predictions with predictions made using linear regression (R^2 of 0.75) to verify goodness of fit

Beaverton Kitchen Cabinet & Stone, Inc. **Beaverton, OR**
Software Engineering Intern January 2023 - May 2023

- Developed an internal data dashboard with two-factor authentication using React, Django, RESTful APIs, and PostgreSQL to display customer information and purchase history
- Improved user organization and search efficiency with filters by reducing overall data processing time by 32%
- Created a 3D modeling software using Unity3D and C# that randomly generates kitchen layouts with a given inventory

Inogen **West Lafayette, IN**
Data Science Researcher - The Data Mine (Purdue University) August 2022 - May 2023

- Researched the correlations between mechanical aspects of portable oxygen concentrators (POCs) and their performance by analyzing and processing data on voltage, power, and oxygen levels in an Agile environment using Python and SQL
- Utilized OpenCV and Tensorflow to create an OCR script that converts PDF files to CSV files with 95% overall accuracy for simple data storage of health documents

PROJECTS

Machine Learning Tetris Bot | Demo + GitHub Link | (Python, TensorFlow, Keras) **2023**

- Developed a machine learning bot using a Deep Neural Network and OOP principles for optimally playing Tetris
- Utilized reinforcement learning and Q-learning strategies to find non-greedy block placements to maximize overall score

Quantitative AI Stock Prediction App | Demo + GitHub Link | (React, Django, PostgreSQL, Keras, scikit-learn) **2023**

- Training an LSTM model on historical daily closing values to predict the value of publicly traded stocks
- Users can view graphs of the predicted stock price against the actual stock price and 100 and 200-day moving averages between any year range on the full-stack web application
- Achieved an overall accuracy of 92% for predicted stock prices

FoodScan.ai | (React Native, Flask, MySQL, AWS EC2, OpenCV, Tensorflow, Keras) **2024**

- Created a full-stack mobile application that lets users scan food items at their school and find reviews posted by others
- Achieved a food recognition accuracy of 34.1% by training a 2D CNN on 5.3 GB of common food images