Naren Rachapalli

nrachapa09@gmail.com | 630-280-4723 | nrachapa.github.io | linkedin.com/in/nrachapa | github.com/nrachapa | Naperville, IL

Education

Purdue University | College of Science | West Lafayette, IN | August 2020 - May 2024
Bachelors of Science in Computer Science

Concentrations: *Artificial Intelligence, Database and Information Systems*
Relevant Coursework: *Artificial Intelligence, Applied Quantum Computing, Statistical Machine Learning, Systems Programming, Data Structures & Algorithms, Distributed Systems, Discrete Math, Linear Algebra, and Probability*

Technical Skills

Python, SQL, C/C++, Shell Scripting, TensorFlow, PyTorch, Pandas, Matplotlib, NLTK, Grafana, AWS, and Docker

Professional Experience

Purdue Computational Quantum Electromagnetics Lab | West Lafayette, IN | Aug 2023 - Current
Undergraduate Research Assistant | *Python, C++, Julia*
- Spearheading an finite element method (FEM) analysis to solve intricate 3D electromagnetic eigenvalue problems using advanced numerical methods
- Designing a Hamiltonian matrix generation algorithm that solves an ordinary differential equations (ODE) system to evaluate Schrödinger's equation to analyze quantum system dynamics.

Amazon | Redmond, WA
Software Development Engineer Intern for Project Kuiper | *PyTest, AWS, Matplotlib, Grafana, and Docker*

May 2023 - Aug 2023
- Pioneered a network anomaly detection test across OISL layers and links into the production test automation framework, using data from various components and cloud services for testing and on-orbit operations.
- Engineered dynamic data visualization dashboard for pinpointing network anomaly components and presenting vital statistical insights on network traffic patterns.

May 2022 - Aug 2022
- Designed statistical models improving validation efficiency by 70% through analyzing time-series telemetry data for hardware and software validation across satellite subsystems and test procedures for production environment.
- Developed dashboards to simulate orbital modem pass performance, identifying key areas for improvement.

Merck | West Lafayette, IN | Aug 2021 - May 2022
Undergraduate Data Science Researcher for Global Research | *Python, Flask, React, AWS, Docker, and SQL*
- Deployed reliable containerized data visualization web app for efficient storage, parsing, and monitoring of legacy drug sample data to facilitate forecasting, reduce experimental redundancy, and expedite drug development.
- Improved sample labeling efficiency by 50% by generating unique QR codes to resolve double labeling issues.

eAlliance Corporation | Naperville, IL | May 2020 - Aug 2020
Machine Learning Engineer Intern for Automation Solutions | *Python, Seaborn, Pandas, Scikit-Learn, NLTK, and UiPath*
- Engineered a natural language processing tool for automated extraction of purchase order numbers from emails.
- Integrated RPA into a larger system for automating shipping inquiries by retrieving shipping details from SAP improving customer inquiry response times tenfold to streamline the supply chain process.

Projects

Blood Cell ANN Classifier | August 2021 - December 2021
Personal | *TensorFlow, Scikit-Learn, Keras, Pandas, NumPy, and Matplotlib*
- Assembled an artificial neural network model trained to accurately classify different types of blood cells in images with a success rate of 98% on testing data.

Bitcoin Reinforcement Learning Trading Bot | August 2020 - May 2021
ML @ Purdue | *TensorFlow, Scikit-Learn, Keras, Pandas, and NumPy*
- Established a profitable trading bot to optimize profits through strategic buying and selling, resulting in 74% ROI.
- Utilized deep reinforcement learning techniques, specifically a Deep Recurrent Q-Network with LSTM, to analyze historical bitcoin prices data with CUDA support.