SWAROOP SRIDHAR

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EDUCATION

RENSSELAER POLYTECHNIC INSTITUTE Troy, NY

Bachelor of Science Expected May 2026

Major in Computer Science
Major in Information Technology and Web Science
Concentration: Machine Learning
Dean's List, Fall 2024
Relevant Coursework: Data Structures, Introduction to Algorithms, Operating Systems, Principles of Software, Machine Learning and Optimization, AI For Science

PROJECTS

FYTÓSPOT – PLANT IDENTIFICATION SYSTEM January 2025 - March 2025

- Designed and implemented a computer vision system capable of identifying various plant species using image recognition.
- Engineered an object tracking pipeline with multiple detection methods (color, texture, contour analysis) to improve identification speed.
- Developed a cross-platform GUI application using CustomTkinter that processed real-time camera feed for immediate plant identification.
- Integrated CNN model with ResNet-50 backbone for accurate classification in variable lighting conditions.
- Technologies Used: Python, PyTorch, OpenCV, CustomTkinter, Object-Oriented Programming

PETCARE VET FINDER (PCVF) January 2025 - March 2025

- Built a multi-source data retrieval system integrating 3 different APIs (Foursquare, TomTom, HERE) to provide comprehensive veterinary information.
- Implemented sentiment analysis on vet reviews to enhance recommendation quality and surface relevant feedback.
- Developed a scoring algorithm using weighted metrics (reviews, distance, services) to improve recommendation relevance.
- Created scalable Flask backend capable of handling multiple concurrent user requests efficiently.
- Technologies Used: Python, Flask, NLTK, Pandas, Sentiment Analysis, API Integration

RPI CAMPUS AVAILABILITY APPLICATION September 2024 – December 2024

- Developed a full-stack application to streamline campus parking searches using real-time availability tracking.
- Created predictive algorithms integrating weather and events data to forecast parking occupancy.
- Integrated mapping APIs to deliver interactive visualizations of campus availability patterns.
- Technologies Used: Python, Flask, JavaScript, Leaflet.js, Google Maps API

ADT GRAPH (INHERITANCE UTILIZING SHORTEST PATH ALGORITHMS) January 2024 – May 2024

- Engineered an optimized Graph ADT for processing large datasets efficiently.
- Implemented Dijkstra and BFS algorithms for optimal campus navigation pathfinding.
- Created an interactive campus map visualization with JavaFX to improve route planning.
- Technologies Used: Java, JavaFX, Data Structures, Algorithms

ADDITIONAL

CORE SKILLSETS:

- Programming Languages: Python3, C++/C, Java, HTML, CSS, JavaScript, Assembly, Haskell, Erlang, Prolog, PHP
- Libraries and Technologies: Linux, Version Control, Git, GitHub, CLion, IntelliJ IDEA, PyCharm, Spyder, Visual Studio Community, Visual Studio Code, PyTorch, Vim, QT Creator, Microsoft Office Suite, Microsoft Azure, Photoshop, SQL, NumPy, SciPy, pandas, Matplotlib, Scikit-learn, Seaborn, CatBoost, LightGBM, XGBoost, REST APIs, React.js
- Skillsets: Data-Structures, Algorithms, Object-Oriented Programming (OOP), Full Stack Development, Agile/Scrum Methodologies, REST API Development, Full Stack Web Development
- Languages: English (Native), Kannada (Receptive), Spanish (Elementary)