SHREYAS VISWANATHAN

405-830-3221 | shreyasviswanathan1@gmail.com | https://www.linkedin.com/in/shrevis/
https://github.com/SXV357

EDUCATION

Purdue University, West Lafayette, IN May 2027
Bachelor of Science in Computer Science, Minor in Mathematics, GPA: 3.94/4.00
Relevant Coursework: CS180 Problem Solving and Object-Oriented Programming, MA261 Multivariate Calculus, CS182 Foundations of Computer Science, CS240 C Programming, MA351 Elementary Linear Algebra
Extracurricular Activities: Autonomous Motorsports(Lane Detection Team), Data Mine Corporate Partners, Machine Learning @Purdue(Lightning & Wildfires Research Lab), Hello World(Web Development Team Lead)

SKILLS

Languages: Python, Java, Javascript, Typescript, HTML, CSS, R
Frameworks/Libraries: React, Flask, Tensorflow, Firebase, NumPy, Pandas, Matplotlib, Scikit-Learn, Selenium, OpenCV
Developer Tools: Git, Github, Gitlab, Visual Studio Code, Jupyter Notebook, PyCharm, IntelliJ, Sublime Text, JupyterLab
Certifications: JPMorgan Chase & Co. Software Engineering Virtual Experience**,** Complete Python Developer in 2023: Zero to Mastery, Cisco Intro to Software Engineering Virtual Experience, FreeCodeCamp Responsive Web Design

EXPERIENCE

The Knudsen Institute, West Lafayette, IN August 2023 - Present
Undergraduate Data Engineering Researcher

- Collaborating with the Knudsen Institute to identify interchangeable and non-interchangeable manufacturing capacities for emerging EV(Electric Vehicle) production from conventional ICE(Internal Combustion Engine) production
- Developed web scraping scripts using Python to extract manufacturing processes, capabilities, and materials from various small and medium-sized automotive part manufacturers' websites
- Leveraged state-of-the-art named entity recognition(NER) models such as BERT and Flair to classify the scraped data into non-manufacturing categories such as contact information and key personnel and store the results in a JSON file

Pacific Northwest National Laboratory, Richland, WA August 2022 - May 2023
SRI Web Development Intern

- Spearheaded the creation of a fully functional "News" page, seamlessly integrated with the live application dashboard. Increased organizational visibility by showcasing the application's scope, case studies, and achievements to over six stakeholders, including the Water Power Technologies Office
- Designed and implemented an algorithm to combine the physical properties and geospatial vector-based geometries of two district-level components and visualize them, resulting in improved user experience and effectiveness of data validation
- Implemented routing workflow enhancements, robust validation for various district modeling processes, and resolved multiple functional defects to ensure greater flexibility and optimal performance

PROJECTS

- **Autonomous Driving Agent** | Inspirit AI |*Python (OpenAI Gym, Tensorflow, Scikit-Learn, Numpy)* August 2022
  - Collaborated on developing a RL agent with autonomous driving capabilities with a lead data scientist at CatapultX
  - Implemented a reinforcement learning loop and behavior cloning algorithm to train a Deep Q-Network for predicting the agent's actions in specific locations within the environment
  - Developed a Q-learning-based function approximator with the Epsilon Greedy Policy to estimate optimal rewards, optimizing the agent's performance in dynamic environments and reducing reliance on human input
- **Object Detection System** | Inspirit AI | *Python (Tensorflow, Numpy, OpenCV, Scikit-Learn)* June 2022
  - Collaborated with a San Francisco State University Physics Masters student on developing an object detection system for autonomous vehicles to safely navigate roads with optimal performance
  - Leveraged DarkNet and YOLOv3 to model a processor for real-time bounding box and confidence predictions
  - Fine-tuned the model using non-maximum suppression (NMS) techniques, achieving a validation accuracy of 96%.
- **Online Product Marketplace** | *Java, Git, GitHub* October 2023 - December 2023
  - Led a team of 5 to develop an online product marketplace using Java where users can buy and sell products
  - Leveraged Swing GUIs to implement an interactive interface for customers and sellers to take a variety of actions
  - Implemented multithreading capabilities to support concurrent usage over a network, ensuring efficient data accessal and sharing
  - Implemented a robust File I/O system using CSV files to ensure data persistence across multiple sessions and in the event of a server or client shutdown