Shreyas Viswanathan

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Education

Purdue University West Lafayette, IN

Bachelor of Science in Computer Science, Minor in Mathematics; GPA: 3.75 *Aug 2023 – May 2026*

- **Relevant Coursework:** Data Structures, OOP, Computer Architecture, Systems Programming, OS

Experience

Data Science Intern Jun 2024 – Aug 2024

Space Cow LLC *Remote*

- Authored a session-based conversation history and token tracking system feature, reducing overhead by enabling history truncation for models with context windows ranging from 4,000 to 2M tokens
- Designed an abstraction layer allowing developers to integrate 120+ LLMs from over 5 proprietary and open-source providers, streamlining the integration process and allowing developers to switch seamlessly between models
- Created a CLI-based RAG chatbot using LangChain and GPT-3.5, supporting analysis of PDF, DOCX, TXT files and websites across 8+ unique domains, enhancing the speed of document insight retrieval

Undergraduate Data Engineering Researcher Aug 2023 – May 2024

The Knudsen Institute *West Lafayette, IN*

- Conducted in-depth analysis in partnership with the Knudsen Institute and 5 team members to evaluate manufacturing capacities for transitioning from ICE to EV production
- Crafted web scraping scripts using Python to extract detailed manufacturing processes, capabilities, and materials data from 8 small and medium-sized automotive part manufacturers' websites
- Achieved an average training loss of 0.006% by fine-tuning state-of-the-art NER models like DistilBERT to identify and categorize capabilities related to CNC machining and aluminum die casting in the scraped data

SRI Web Development Intern Aug 2022 – May 2023

Pacific Northwest National Laboratory *Remote*

- Spearheaded the creation of a "News" page, integrated with the live application dashboard; increased organizational visibility by showcasing the application's achievements to 6+ stakeholders, including the WPTO
- Implemented documentation and project analytics routing workflow enhancements, robust validation for district modeling processes, and resolved 20+ functional defects to ensure greater flexibility and optimal performance
- Formulated a comprehensive algorithm to combine the physical properties and geospatial vector-based geometries of 2 district-level components, resulting in improved user experience and effectiveness of data validation

Projects

Quizz.It | *Python, Flask, React, Firebase, Gemini API, LangChain, Material UI, Git* Jan 2024 - Aug 2024

- Spearheaded a team of 4 to design and develop an educational productivity app, featuring document summaries, automated test/quiz question generation, and integrated chatbot Q&A, with support for documents up to 75 pages
- Engineered a high-performance architecture with 8 optimized Flask API endpoints, leveraging a robust OCR pipeline for document text extraction, and supporting efficient file upload, retrieval, and feature access

Online Product Marketplace | *Java, Swing, JUnit, Git* Oct 2023 - Dec 2023

- Led a team of 5 to develop an online product marketplace; leveraged swing GUIs to implement an interactive interface comprising 1500+ lines of code, streamlining customer and seller interactions and enhancing usability
- Deployed multithreading and constructed a resilient CSV database, supporting 10-15 concurrent users and demonstrating scalability for unlimited users while ensuring seamless data access and security

Autonomous Driving Agent | *Python, OpenAI Gym, TensorFlow, Scikit-Learn, NumPy* Aug 2022 - Oct 2022

- Devised a RL agent for autonomous driving, that navigated a race track in under 20 seconds; authorized a behavior cloning algorithm to train a Deep Q-Network with an action prediction accuracy of 84.3%
- Developed a Q-learning-based function approximator with the Epsilon Greedy Policy to estimate optimal rewards and reduce reliance on human input, achieving an increase in maximum episode reward by 112.5%

Technical Skills

Languages: Java, Python, C/C++, JavaScript, TypeScript, HTML/CSS, R, SQL
Frameworks and Libraries: React, Flask, Firebase, Pandas, NumPy, Matplotlib, Scikit-Learn, OpenCV, Tensorflow
Developer Tools: Git, GitHub, GitLab, VS Code, PyCharm, IntelliJ, Jupyter Notebook, Bash, Jira