Suraj Kumar

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EDUCATION

University of Delaware Starting August 2025
PhD in **Computer Science**

University of South Florida May 2024
Bachelor of Science in **Computer Science** **GPA**: 3.79/4.00

SKILLS

- **Software and Tools:** Python, SQL, C++, JavaScript, Git Streamlit, Flask, Scikit-learn, Tableau, PowerBI, FastAPI, LaTeX
- **Core Competencies:** Machine Learning, Natural Language Processing (NLP), Deep Learning, Data Analytics, Statistical Modeling, A/B Testing, Data Visualization, Agile Methodologies, Cloud Computing

WORK EXPERIENCE

AI Research Assistant – *AHMR Lab* **August 2024 – Present**

- Developed a multi-agent simulation framework for *RISK*, integrating persona-based heuristics using Ollama and resulting in higher AI strategic accuracy in simulated gameplay tests
- Designed an evaluation framework for prompting techniques (CoT, Few-shot, LOCI) integrated with Retrieval Augmented Generation (RAG) pipelines, identifying the most effective approaches for improving inference in rule-based tasks.

Publications:

- Improving Multi-hop Logical Reasoning in Small LMs with LoRA Training (accepted at FLAIRS 38) – *Onur Bilgin,* ***Suraj Kumar****, John Licato*
- Curiosity Exploration Styles in Word Association Task (Submitted to CogSci 2025) – *Stephen Steinle,* ***Suraj Kumar****, John Licato*

Computer Science Teaching Assistant – *CS department, USF* **January 2023 – May 2024**

- Supported **80+** students with assignments and projects, fostering independent learning and contributing to a marked improvement in overall class performance.
- Conducted weekly office hours and led peer programming sessions, offering constructive feedback that resulted in a **15%** increase in student grades.

Software Engineering Intern – *Nucor Steel Texas* **May 2023 – August 2023**

- Developed a Power App to effectively monitor electricity costs, using **Power FX** and **SQL** database, including functionalities like confirmation popup, sound alert and real time electricity price which ultimately decreased the data reload time by **12%**
- Developed Scrap Recipe Optimization using **Python**, **SQL** and **JavaScript**, utilizing advanced machine learning models, reducing costs by **5-10%** through dynamic chemistry predictions
- Partnered with IT to troubleshoot network issues, ensuring uninterrupted connectivity for over **300** employees.

LEADERSHIP

Co-Director – *Hackabull* **May 2022 – May 2023**

- Organized and steered Tampa's largest hackathon, overseeing a team of **12**, implemented effective project management techniques which resulted in a successful event with **500+** attendees, a **55%** increase from the last year
- Supervised the development of sponsorship packet and lead communication with sponsors to raise over **$20,000**
- Acted as the liaison between the SHPE USF chapter and the Hackabull team to ensure proper communication and support by defining clear targets, objectives, and expectations for both bodies

VP of Communications – *SHPE USF* **March 2022 – May 2023**

- Designed and distributed weekly newsletters curated to meet the needs of over **1100** STEM students, providing information about upcoming events and employment opportunities resulting in greater student engagement by **22%**
- Supervised USF's annual Engineering Expo by leading a team of 3 to create and demonstrate several projects like Robotic-arm and Laser-speaker, designed to educate 1500+ K-12 students and ignite interest in STEM

PROJECTS

Application Tracking System using Gemini Pro *(44 hours)* **April 2025**

- Created an LLM-powered resume matching tool that analyzes job descriptions and resumes using Google's Gemini API to generate match percentages and tailored HR-style feedback.
- Automated PDF parsing and response generation within an intuitive Streamlit interface, simulating real-world ATS functionality.

Student Performance Predictor *(18 hours)* **February 2025**

- Analyzed academic performance data by conducting comprehensive EDA and feature engineering on academic and demographic data, achieving 96% forecast accuracy.
- Conducted machine learning modeling and benchmarked performance using Scikit-learn and Seaborn.

Boston House Price Prediction *(26 hours)* **January 2025**

- Built and deployed a regression-based ML pipeline to predict housing prices using Scikit-learn, Pandas, and NumPy
- Deployed the solution via Flask, showcasing end-to-end capabilities in model development and web integration.