

Kshitiz Neupane

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[LinkedIn](#) — [GitHub](#)

Education

University of Southern Mississippi Expected May 2028
Bachelor of Science in Computer Science & Mathematics GPA: 4.0/4.0
Relevant Coursework: Data Structures, Object-Oriented Programming, Discrete Mathematics, Calculus I–II

Research Experience

Research Assistant — Cybersecurity & NLP Aug 2024 – Present
University of Southern Mississippi

- Designed and evaluated **NLP- and ML-based models** for detecting social engineering attacks in organizational communications.
- Analyzed **linguistic features, contextual embeddings, and message metadata** to identify anomalous sender behavior.
- Integrated experimental models with a **graph neural network (GNN)** anomaly-detection pipeline operating on email communication networks.
- Investigated anchor-based comparison techniques; documented **underperformance against baseline GNN models** to guide pipeline redesign.
- Contributed to dataset preparation, feature engineering, and interpretation of experimental results for ongoing academic research.

Teaching Experience

Computer Science Tutor Nov 2023 – Jan 2024
Vrindavan Academy

- Taught **Python programming, algorithms, and mathematical reasoning** to high-school students.
- Designed hands-on lessons connecting coding fundamentals to **real-world problem solving**.
- Led interactive workshops focused on logical thinking and computational reasoning.

Projects

ManageYourHome — Full-Stack Web Application GitHub
Python, Django REST Framework, React, TypeScript

- Architected a **JWT-secured REST API** supporting multi-user expense sharing with protected endpoints.
- Implemented **per-item cost splitting**, tax handling, and two-decimal rounding to ensure financial accuracy.
- Built a clean, responsive React interface with explicit shared-expense workflows for real household use.
- Documented setup and usage to support maintainability and onboarding.

WordBuddy AI — Hackathon Project GitHub
React, Node.js, OpenAI API, ElevenLabs API

- Built a voice-based AI learning application for children using generative AI for dialogue and speech.
- Led backend development in a **4-person team**, delivering an MVP within **24 hours**.

Social Engineering Detection Pipeline — Research Project

Python, NLP, Graph Neural Networks

- Developed a modular pipeline combining **GNN-based anomaly detection** with NLP feature extraction.
- Evaluated contextual embeddings and sentiment signals for attacker identification.

F1 Race Data Analysis — Data Science Project GitHub
Python, Pandas, NumPy, Matplotlib, Seaborn

- Cleaned and analyzed historical Formula 1 data (1956–2017) to study relationships between pit stops, driver statistics, and race outcomes.
- Produced visualizations revealing performance trends and race strategy correlations.

Technical Skills

Programming: Python, JavaScript, TypeScript, C++, SQL,

Backend & APIs: Django REST Framework, JWT Authentication, RESTful Design

ML & Data: NLP Pipelines, Feature Engineering, Model Evaluation, Pandas, NumPy

Frontend: React

Tools: Git, Linux, Jupyter Notebook