Kushal Shrestha

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Education

Webster University St. Louis, MO

Bachelor of Science in Computer Science - Emphasis in Machine Learning *GPA: 3.82 | 2024 - 2028*

Experience

Data Engineering Intern - Year Round May 2025 - September 2026

Schnuck Markets, Inc. *Hybrid | St. Louis, MO*

- Engineered Python-scripted data pipelines via Airflow, extracting from FastAPI and loading to BigQuery.
- Built 2 data agents and automated workflows on Agent Engine, accelerating operational efficiency by 20%.
- Orchestrated legacy migration of 10+ datasets from Oracle to BigQuery via automated Talend ETL jobs.
- Validated and cleansed 3 core legacy datasets by refactoring stored procedures, ensuring 100% data quality.

Frontend Software Engineering Intern March 2024 - June 2024

Amigo Groups *Remote*

- Engineered OAuth 2.0 API authentication flows to securely protect backend data endpoints.
- Increased daily visitors over 300+ to a blog website by developing and optimizing a React.js site.

Website Management Intern September 2023 - March 2024

Avenues Khabar *Kathmandu, Nepal*

- Reduced loading times by 30% through rigorous defect tracking, testing, and UI optimization.
- Analyzed traffic datasets to drive a 40% user engagement increase via targeted front-end optimizations.

Data Science Instructor November 2023 - January 2024

Freelance *Kathmandu, Nepal*

- Achieved 35% grade improvement by developing tailored instructional plans in Python, Data Analysis, MySQL.

Projects

Rant & Heal | *Next.js, RAG, Firebase, WebRTC* | Source Code

- Built hybrid mental-health app across AI text, voice, and therapy sessions with Gemini.
- Secured 2-role care flows via Firebase Auth, Firestore rules, and scoped records.
- Enabled 1:1 patient-therapist care via realtime chat and WebRTC calls via Firebase signaling.

Zenith — Ghost Visualizer | *TypeScript, VS Code API, LLM, p5.js* | Source Code

- Developed a VS Code extension rendering real-time AI-powered data structure visualizations as you code.
- Engineered low-latency AST parsing to analyze cursor-level code and stream real-time algorithm playback.
- Engineered memory leak debugging and Big-O profiling grounded in PC/CPU architecture principles.

SurgiPath | *Python, Streamlit, OpenCV, LLM* | Source Code

- Prototyped an AI surgical training simulator with Gemini-generated structured training syllabi.
- Researched and compared existing AI computer vision approaches for real-time instrument tracking.
- Implemented auto-advancing checklists with clinical pro-tips triggered on each instrument detection event.

Leadership & Achievements

President (Former Coding Team Lead) | *Computer Science Club*

Former Senator - GHW School of Business and Technology | *Student Government Association*

Technical Skills

Languages & Web: SQL, Python, C++, TypeScript, JavaScript, React, Next.js, Node.js, Flask, Tailwind CSS.
AI & Data Engineering: LLM, scikit-learn, TensorFlow, Data Modeling, BigQuery, Apache Airflow, Talend.
Cloud, DevOps & Tools: AWS, GCP, REST APIs, Git, Kubernetes, Jenkins, Firebase, WebRTC.

Competitions

Webster Hackfest 2025 | *Best Overall Project* | Project Link Webster University

- Won for Rant & Heal, an AI voice therapy mental health platform (Next.js, Gemini, Firebase, WebRTC).

PickHacks 2025 | *Community Vote Winner* | Project Link Missouri S&T

- Awarded for a real-life Among Us (React Native, Firebase, NFC eliminations, real-time tracking, voice chat).

Byte Bash 2.0 | *1st Place* | Won competitive coding competition. Webster University