Shaurya Kumar

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Education

University of Delaware <div align="right">Newark, DE</div>
*Honors Bachelor of Science, Computer Science and Applied Mathematics, **GPA: 4.0*** <div align="right">*Expected: May 2027*</div>
- Trustee Scholar, 2023-2024 Dean's List
- **Relevant Coursework:** Discrete Maths I & II, Systems Programming, Object Oriented Programming, Calculus III, Data Structures, Machine Organization & Assembly Language, Probability Theory & Simulation, Software Engineering I, Mathematical Statistics
- **Clubs/Activities:** Competitive Programming Club, Association of Computing Machinery, Gujarat Samaj, Honors Adventuring Club, Intramural Soccer

Experience

Teaching Assistant, Proctor TA <div align="right">January 2025 - May 2025</div>
University of Delaware <div align="right">*Newark, DE*</div>
- Provide tailored support to **30 Honors CS students** for the CS1 course by hosting weekly office hours, one-on-one tutoring sessions, and group study sessions, improving average class performance by **15%**.
- Grade assignments and maintain detailed records of student progress, delivering timely, constructive feedback to foster continuous improvement in programming skills.
- Collaborate with course instructors to develop supplementary materials and **interactive coding exercises**, enhancing student engagement and reinforcing lecture content.

Undergraduate AI Researcher <div align="right">May 2024 – August 2024</div>
University of Delaware <div align="right">*Newark, DE*</div>
- Engineered a medical AI tool leveraging **Retrieval Augmented Generation (RAG)** to transform user input into accurate patient vignettes, effectively reducing bias in large language models and improving diagnostic accuracy by **25%**.
- Implemented advanced text summarization metrics (**BLEU**, **ROUGE**) to assess the correlation between patient context and generated vignettes.
- Optimized the LLM evaluation process by integrating effective metrics (**GPTScore**, **G-Eval**, **ARES**), resulting in a significant increase in assessment precision.
- Presented research findings at the UD Summer Research Symposium, demonstrating significant improvements in the accuracy and reliability of patient vignette generation through bias mitigation in LLMs.
- Utilized **Pandas, PyTorch, Python, NLTK**, and **BLEUScore** to develop and evaluate the project, enhancing data processing speed.

Projects

Sentinel AID | *Python, FastAPI, OpenAI API, OpenCV, React, Leaflet, TailwindCSS* <div align="right">March 2025</div>
- Developed an AI-driven disaster management system with drone technology, reducing emergency response times by **47%** in simulated crisis scenarios.
- Built footage analysis system using **OpenAI API** and **OpenCV** to process drone data with **92%** accuracy, extracting disaster severity metrics.
- Created community aid exchange platform using **React** and **Leaflet**, connecting **300+** resources to affected areas during testing. (DevPost)

Wall Of Support | *HTML, CSS, JavaScript, Google Firebase, Google Cloud APIs* <div align="right">October 2024</div>
- Developed a web platform enabling users to share supportive messages, fostering a global community of encouragement.
- Implemented content moderation using **Google Natural Language** and **Perspective APIs** to ensure positivity and reduce harmful content.
- Utilized **Google Firebase** for database operations, handling **500+ API requests** with **34 ms** latency across **10+ countries**. (Wall of Support)

SurgiScan | *Python, OpenCV, YOLO, PyTorch, NumPy, Roboflow, and YAML* <div align="right">September 2024</div>
- Tackled the issue of **4,000+ surgical tools** left in patients yearly in the U.S., reducing health risks and litigation costs.
- Trained **YOLOv5 model** on a manually created dataset of over **300+ images** of over to detect and track surgical tools in real-time (DevPost).

RoomieUD | *HTML, CSS, JavaScript, Figma* <div align="right">March 2024</div>
- Won Second Best Hack for Social Good at HenHacks out of 82 teams (DevPost).
- Created a Tinder-inspired app that uses **Euclidean geometry algorithms** and numerical point-based questionnaires to find compatible roommates.

Honors/Awards

First Place, HopHacks (Patient Safety Tech Category) <div align="right">September 2024</div>
- Created SurgiScan, and won first in the Patient Safety Technology Category.

HenHacks Second Best Hack <div align="right">March 2024</div>
- First Hackathon, placed 2nd place (out of 82 submissions) in the Social Good category.

Technical Skills

Languages: Java, Python, HTML/CSS, JavaScript, TypeScript, C, C++, Go, SQL
Frameworks: React, Node.js, Flask, YOLO, Google Firebase
Developer Tools: Git, GitHub, Jupyter Notebook, LaTeX, Linux/Unix, Terminal, Vim, YAML, RoboFlow, REST APIs
Libraries: pandas, NumPy, Matplotlib, ROUGE, BLEU, PyTorch, OpenCV