SHLOK TOMAR

(312)-375-7583 | shloktomar65@gmail.com | linkedin.com/in/shlok-tomar-us/ | https://shlok-crypto.github.io/

EDUCATION

Washington State University — Pullman, USA
Master of Computer Science (Thesis) ***Prof (Dr.) Janardhan Rao Doppa*** ***GPA**: 3.9/4.0* — *Expected Jan 2025*
- Relevant Coursework: Neural Network Design, Big Data Analysis, Reinforcement Learning and Advanced Algorithms

Amity University — Noida, India
Bachelor of Science in Computer Application ***GPA**: 3.8/4.0* — *Graduated May 2022*

SKILLS

- **Technical Skills**: Python, C++, C, R, BoTorch, TensorFlow, PyTorch, Image Processing, Data Analytics, Data Visualization, MySQL, MongoDB, Azure, AWS, HTML, CSS, BoTorch
- **Soft Skills**: leadership, Team Collaboration, Problem-Solving, Critical Thinking, Time Management

WORK EXPERIENCE

UC Berkeley & United States Department of Agriculture (USDA) — *Berkeley, CA*
Summer Research Intern — *May 2023 – Aug 2023*
- Independently developed deep/machine learning models from scratch to estimate prevalence of chronic wasting disease (CWD) in wild cervid population.
- Conducted real-time location analysis using National Satellite Imagery data, achieving **96.4% accuracy** in disease detection.
- Worked directly with US Government SCI-Net High-Performance Computing System (HPC) to improve model **efficiency** by **67%**

Defense Research & Development Organization (DRDO) — Noida, India
Researcher and Lead Developer (Internship) — *Sept 2021 – Jan 2023*
- Selected as the only undergraduate to work on an AI-based human Identification in low accuracy conditions.
- Create a comprehensive dataset of human skeletal features, utilizing Panda's library and performed prescriptive analysis on the dataset using an ML model.
- Presented 3D visualizations of the ML model outputs in official project update meeting.

Microsoft — Roorkee, India
Internal Technology Intern Future Ready — *Sept 2021 – Feb 2022*
- Developed an in-depth understanding of Azure, Machine Learning, AI, and Computer Vision tools through a series of application-based group projects, led by Microsoft engineers.
- Created an immersive, AI-enabled windows application to detect improper body postures during exercise.

PUBLICATIONS

- **Shlok Tomar,** Aryan Deshwal, Ethan Villalovoz, Haipeng Cai, Janardhan Rao Doppa. *Test-Driven Code Generation using LLMs via Bayesian Optimization*. In Proceedings of the 2025 AAAI Conference on Innovative Application of Artificial Intelligence (IAAI 2025) (Under Review)
- **Shlok Tomar,** Aryan Deshwal, Ethan Villalovoz, Mattia Fazzini, Haipeng Cai, Janardhan Rao Doppa. *Sample Efficient LLM-Driven Program Synthesis: A Novel Bayesian Optimization Approach*. In Proceedings of the 2025 IEEE/ACM International Conference on Software Engineering (ICSE 2025) (Under Review)

SELECTED PROJECTS

Unfreeze Memories Augmented Reality Cards — *Feb 2022 – Mar 2022*
- Created an augmented reality application that scans photos and plays personalized video above it; awarded best class project for Advanced Image Processing course.

FBI Hate Crime Data Analysis — *Apr 2021*
- Analyzed FBI's annual hate crime dataset to draw insights on racial hate crime trends by factors such as bias criteria, geography, and frequency of crime
- Pre-processed and cleaned 21,000+ data entries with Pandas, decreasing processing time by 34 %
- Visualized data trends using Pandas and matplotlib to help improve analysis interpretation with users

LEADERSHIP/ VOLUNTEERING

Delegate, Harvard Project for Asian and International Relations (HPAIR) — *June 2024*
- Accepted for the prestigious international conference focused on addressing key global issues in Asia and beyond.
- Engaged in high-level discussions and workshops on international relations, economic development, and innovation
- Networked with global leaders, policymakers, and distinguished academics to foster cross-cultural collaboration.