

Samyak Shrimali

971-724-5721 | samyak.shrimali701@gmail.com | linkedin.com/in/samyak-shrimali-443295229 | github.com/samsat701

EDUCATION

University of Illinois Urbana-Champaign

Urbana, IL

Bachelor of Science in Computer Science, Minor in Statistics

Aug. 2023 – May 2026

- **Relevant Coursework:** Introduction to Computer Science I/II, Data Structures, Computer Architecture, Discrete Structures, Statistics and Probability, Linear Algebra, Calculus I/II/III, AP Computer Science A
- **Notable Awards/Honors:** Davidson Fellow '23; Microsoft Junior Imagine Cup Global Winner '21; Regeneron STS Scholar '23; Featured in Forbes, EuroNews, Times of India, National Geographic Kids

EXPERIENCE

Product Engineering Intern (Software/AI)

May 2024 – Aug. 2024

John Deere

Fargo, ND

- Developed advanced computer vision segmentation algorithms to extract and categorize circuit, sub-circuit, and part information from John Deere schematic PDFs, creating a structured SQL database for efficient data retrieval.
- Implemented a Retrieval-Augmented Generation (RAG) pipeline, generating vector embeddings and indexing the SQL database within Deere Data Lake, integrating with DeereAI's GPT-4 Turbo model to streamline schematic data access and enable novel circuit designs.
- Engineered a bootable Rust application for a Cortex-M microcontroller and implemented UART communication for real-time debugging, utilizing PAC and HAL to enhance system reliability and scalability (C to Rust Transition).

Software Engineering Intern

Jan. 2024 – May 2024

Agrofocal Technologies

San Jose, CA

- Led the development of an image corruption detection algorithm for agricultural crops using Canny Edge Detection, achieving sub-ms processing times through vision optimization techniques, enhancing image analysis precision.
- Pioneered a grape berry detection and measurement tool, employing AI-based clustering and Hough Circle Transform optimized for high-speed and accurate assessments, improving yield estimations and quality control.
- Directed the collection and thorough analysis of an extensive crop dataset; directly reported to CEO and a multidisciplinary team, optimizing project delivery times and enhancing data-driven decision-making.

Machine Learning Researcher w/ Dr. Christof Teuscher

Jan. 2021 – Sept. 2023

Portland State University

Portland, OR

- Developed a Convolutional Neural Network (CNN) and sensor-based tool to monitor staff hand hygiene compliance at critical locations (beds, sinks, dispensers), contributing to the mitigation of healthcare infections.
- Presented research to 100+ industry experts in hospitals/infection prevention centers, incorporating critical feedback; invited to showcase the work at Stanford's AI Lab, courtesy of Dr. Eshan Adeli.
- First-authored paper published in IEEE Sensors Journal (impact factor: 4.3); recognized with 15+ international/national-level awards.

PROJECTS

RegalRaid | TypeScript (Phaser, NPM), Rust (Anchor)

Feb. 2024

- A blockchain-based PvP gaming platform using the Phaser game engine and Solana blockchain for real-time transactions and asset management. Expected to Launch in Winter 2025.
- Awarded Grand Prize at HackIllinois 2024 among over 100 teams and 600+ students; 4,000+ reach on social media platforms.

Multidisciplinary Computer Science Research

Aug. 2019 – Present

- Innovated several AI-based tools and apps addressing critical societal challenges, including food insecurity, climate change, skin cancer, and cyberbullying - <https://sites.google.com/view/portfolio-samyak-shrimali/projects>.
- Published 6 independent research papers in esteemed international peer-reviewed journals and conference proceedings; presented at 15+ international and national conferences; \$10,000 in research grants.

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL (Postgres), JavaScript, Typescript, HTML/CSS, R, MATLAB, Rust

Frameworks: Flask, StreamLit, React, Node.js, WordPress

Developer Tools: Git, Docker, Google Cloud Platform, VS Code, PyCharm, IntelliJ, Android SDK, NPM

Libraries: TensorFlow, PyTorch, Keras, OpenCV, Numpy, Pandas, Scikit-Learn, Matplotlib, Phaser, Anchor