Jigyas Sharma

+1 (971) 985 8869 | jigyas@icloud.com | www.jigyas.net | github.com/JigyasS

EDUCATION

University of Kansas, *MSc. in Computer Science* | Lawrence, Kansas GPA: 4.0 / 4.0 May 2025
University of Kansas, *B Sc. in Computer Science* | Lawrence, Kansas GPA: 3.6 / 4.0 May 2023

Clubs and Associations: KU Software Engineers Club(President) | KU Artificial Intelligence Organization(Programming Member) | KU Esports Team(Captain) | KU Cyber Security Club(Member) | Jayhawk Motorsport Team(Volunteer)
Certifications: Machine Learning with Spark on Google Cloud Dataproc
Courses: ML | Data Science | Computer Vision | Cryptography and Computer Security | Operating Systems | Data Privacy and Security

PROJECTS

Autonomous Driving Model for Racing | Researcher, *University of Kansas* August 2023 - Present

- Engaging in research to develop an autonomous driving model that switches between optimizing track performance, overtaking strategies, and defensive maneuvers against competitors.
- Designing modes to optimize lap times, create dynamic overtaking lines, and track dynamic objects for strategic positioning, using Anytime Computing for real-time adaptability.
- Highlighting capability in applying deep learning for dynamic and strategic enhancements in autonomous vehicle racing technologies.

Data Privacy and Security in Machine Learning | Researcher, *University of Kansas* January 2024 - Present

- Focusing on developing innovative strategies for attacking identification-based machine learning models through the introduction of undetectable watermarks in images.
- Conducting research on watermark poisoning attacks that mislead machine learning models into incorrect classifications, utilizing SHAP kernel analysis to pinpoint and leverage the most influential features and those near the decision boundary for watermark creation.
- Contributing to critical discussions on AI security and ethics by demonstrating practical vulnerabilities and proposing novel solutions for enhancing data privacy and security in machine learning applications.

EXPERIENCE

UNIVERSITY OF KANSAS *Graduate Research Assistant* | **Lawrence, KS** January 2024 - Present

- Conducting research on data privacy and security, with a special focus on machine learning vulnerabilities.
- Utilizing SHAP (SHapley Additive exPlanations) to analyze and understand the features that predominantly contribute to the decision-making process of machine learning models.
- Contributing to the academic community through publications and presentations.

UNIVERSITY OF KANSAS *Graduate Teaching Assistant* | **Lawrence, KS** August 2023 - Present

- Provide mentorship in various computer science courses, adapting teaching methods to different subjects each semester, and effectively guiding students through complex software concepts and programming paradigms.
- Contribute to the development of curriculum materials across multiple computer science disciplines, ensuring content relevance and applicability to real-world software engineering and research scenarios.
- Offer targeted technical guidance and support, fostering student proficiency in software development and research methodologies, and enhancing their ability to tackle challenging technical problems.

KU INFORMATION TECHNOLOGY *IT Student Technician* | **Lawrence, KS** August 2022 - August 2023

- Efficiently resolved hardware and software issues for university staff and students, ensuring optimal operation of computer systems and networks.
- Utilized strong analytical skills for quick diagnosis and resolution of technical issues, enhancing IT infrastructure efficiency and functionality.
- Worked effectively with a diverse team of IT professionals, participating in projects, sharing knowledge, and actively contributing to the team's success in delivering exceptional IT services to the university community.

3M INDIA *SWE Summer Intern* | **Bangalore, India** April 2019 - August 2019

- Completed a summer internship at 3M India, actively participating in Agile development strategies with a cross-functional team, gaining valuable experience in the iterative and collaborative software development approach.
- Utilized C++ and Python predominantly for backend development, successfully implementing and optimizing software solutions that contributed to the efficiency and performance of key projects.
- Contributed to the creation of a software module for optimizing data analysis using Python and SQL, enhancing data processing efficiency by 30% and receiving positive feedback for delivering high-quality, well-documented code.

SKILLS

Languages Python, C/C++, embedded C, JavaScript, React, Swift, Kotlin, Perl, Haskell, VHDL, SQL, MySQL, Bash
Libraries Tensorflow, Pytorch, Keras, SHAP, Pandas, NumPy, React.js, SciPy, SciKitLearn, NLTK, OpenCV, Theamo
Interests Autonomous Driving Models, HPC Algorithms, Cryptographic Security, CNN Models, Robotics, RL, XAI, CV