AAYAM RAJ SHAKYA

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EDUCATION

Mississippi State University Starkville, MS
B.S. in Computer Science, Concentration in AI and Minor in Mathematics Expected Dec 2025
Cumulative GPA: 4.00/4.00, *President's List*
Relevant Coursework: Intro to Machine Learning, Deep Learning, AI Fundamentals, Mathematical Foundations of Machine Learning, Data Structures and Algorithms, Multivariate Calculus, Engineering Statistics, Software Engineering Fundamentals
Affiliations: MSU SIG Artificial Intelligence Club, CodePath, Social Winter of Code (SWOC '25)

SKILLS

Languages: Python, C++, HTML, CSS, JavaScript, SQL
Technical skills: TensorFlow, Keras, PyTorch, Scikit-learn, NumPy, Pandas, Matplotlib, Git, Docker, AWS, ReactJS, TypeScript, Node.js, Flask, Tailwind CSS

EXPERIENCE

Undergraduate Researcher Jan 2025 – Present
Geospatial Computing for Environmental Research (GCER) Lab Starkville, MS

- Create high-resolution land cover dataset using color infrared imagery and develop a deep learning model for satellite-based environmental monitoring in Mississippi

Undergraduate Research Assistant Dec 2023 – Present
Wireless Communications Lab, Department of Electrical and Computer Engineering Starkville, MS

- Research on NSF-funded AERPAW and Open AI Cellular projects to develop scalable, software-driven solutions for next-generation wireless communications
- Leverage Python to automate configuration, testing, and deployment of 5G components, improving efficiency and reducing deployment time by 65%
- Perform data processing and analyze large datasets from RAN-Tester UE to assess security resilience under different simulated attack scenarios
- Utilize open-source 5G software suites, srsRAN and Open5GS, to design 5G network simulations for analysis and testing with software-defined radios and user equipment (UE)

PROJECTS

LSTM-GAN-Based UAV Wireless Channel Modeling | *Python, PyTorch*

- Develop a hybrid LSTM-GAN model using real-world channel data to generate realistic UAV communication channel models, improving the AERPAW digital twin for UAV experimentation ***(ongoing)***

Campus Vision AI Challenge | *Python, TensorFlow, Keras*

- Developed a TensorFlow-based CNN model to classify university buildings, leveraging learning rate scheduling and early stopping for optimized performance
- Trained on a dataset of over 12,700 images, enhancing model accuracy by 17% through parameter fine-tuning, with results visualized using Matplotlib

curious.AI - AI for Everyone | *TypeScript, Next.js, Gemini AI*

- Collaborated with open-source contributors to build an AI platform using Google's Gemini Pro for natural conversations, code generation, and image creation
- Maintained and designed a responsive, production-grade web interface using Next.js and Tailwind CSS, optimizing user interaction

Sole Legacy | *ReactJS, Flask, SQL*

- Engineered a full-stack e-commerce platform with 99% uptime, featuring complete store functionalities
- Utilized ReactJS for front-end and Flask for back-end, creating a responsive UI and a robust RESTful API
- Automated build, test, and deployment workflows using CI/CD pipeline, ensuring reliable development cycles

CERTIFICATIONS

- Advanced Learning Algorithms by DeepLearning.AI
- Supervised Machine Learning: Regression and Classification by DeepLearning.AI