KASHYAP HEGDE KOTA

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Education

Bachelor of Science in Computer Science, Arizona State University Tempe, AZ
GPA: 3.83/4.00 *Expected May 2026*

- **Coursework**: Artificial Intelligence, Applied Machine Learning, Cloud Computing, Operating Systems, Computational Theory, Data Structures and Algorithm

Technical Skills

Languages: Python, C++, C, Java, JavaScript, C#, SQL, R
Frameworks: Flask, Django, PyTorch, TensorFlow, Scikit-Learn, Pandas, numpy, Next.js, RESTful, LangGraph, Langchain, React, Node.js, JUnit, FastAPI
Developer Tools: Git, GitHub, Docker, Amazon Web Services, Google Cloud Platform, VS Code, MySQL, PostgreSQL, HuggingFace

Experience

Software Development Intern October 2025 – Present
WalnuTech PBC Inc. *Phoenix, AZ*

- Developed a **Human-in-the-Loop** data pipeline using **Python**, **Flask** and **LangGraph**, automating the ingestion and standardization of unstructured scholarship data
- Designed a two-phase **LLM verification protocol** with a 3-tier parsing fallback, ensuring 99% extraction reliability even on malformed input
- Optimized the data ingestion pipeline into an asynchronous architecture using **asyncio**, slashing processing latency by 98% (from 10 seconds to 200ms per scholarship) and optimizing API costs
- Constructed a comprehensive test suite, simulating external API failures and concurrent race conditions to validate the **LangGraph** state machine and **Flask** endpoints

Undergraduate Research Assistant August 2025 – Present
Arizona State University *Tempe, AZ*

- Fine-tuned **VideoLLaMa3-7B LLM** on over 12,000 video-question-answer pairs for urban traffic analysis using **PyTorch**, **DeepSpeed**, and **HuggingFace Transformers**
- Optimized training infrastructure for **NVIDIA A100 80GB GPU** using advanced memory management techniques including **ZeRO Stage 2**, gradient-check-pointing, and custom **CUDA** allocation strategies

Software Developer Intern May 2024 – August 2024
ErithMe Solutions *Dubai, U.A.E.*

- Architected and deployed a full-stack Attendance Tracking application using **React** to build a dynamic, component-based UI and **Node.js** for a scalable backend
- Developed an automated reporting module that generated real-time, actionable dashboards, saving the administrative team over 10 hours of manual work weekly

Projects

Formula 1 2026 Carbon Emission Projector | *Next.js, AWS Lambda, FastAPI, DynamoDB* Link

- Architected a serverless microservice on **AWS Lambda** to simulate the carbon footprint of the 2026 Formula 1 season.
- Designed a **CI/CD** pipeline using GitHub Actions to automate testing and deployment, solving complex cross-platform dependency resolution (Windows/Linux) for Python packages.
- Engineered a high-performance **NoSQL** schema in **DynamoDB** to store and retrieve geospatial circuit data with sub-10ms latency.
- Implemented **AWS API Gateway** with custom routing and CORS configurations to securely expose the **FastAPI** backend to the public web.

AI Image Captioning System | *Python, Streamlit, NLP, LSTM, CNN* Link

- Engineered an **end-to-end image captioning pipeline** that transforms raw image pixels into natural language descriptions, bridging computer vision and **Natural Language Processing**
- Designed an **Encoder-Decoder** architecture, leveraging **ResNet-50** (CNN) to extract visual features and an **LSTM** network (Decoder) to generate coherent captions