

Akshay Gona

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EDUCATION

University of Wisconsin - Madison

B.S. in Computer Sciences, Data Science, and Mathematics

Madison, Wisconsin

Expected Graduation, Dec. 2025

Related Coursework: Object-Oriented Programming, Data Structures & Algorithms, Computer/Machine Organization, Algorithms, Statistical Modeling/Visualization, Machine learning, Artificial Intelligence, Operating Systems, Computer Networks

EXPERIENCE

TikTok

Software Engineer Intern – US Data Security – Data Platform & ML

Culver City, California

Jun. 2025 – Aug. 2025

- Built a **compliance-aware replication system** for TikTok's internal data engine to synchronize table mutations across **4 control planes and 20+ VDCs** in real time, replacing a **2–3-month lag** with **real-time policy-enforced consistency**.
- Designed **conflict-resolution and checkpointing mechanism** to guarantee **exactly-once replication semantics** under concurrent table updates, achieving **millisecond-level recovery** and **fault tolerance across distributed control planes**.

J.M. Smucker Co.

Software Developer Intern – Infrastructure/Platform Services

Orrville, Ohio

May 2024 – Aug. 2024

- **Designed, developed, and deployed a serverless, containerized notification application** with a **React frontend** for customizable alerts and a **Python-based backend** to trigger notifications via email, PagerDuty, or phone calls.
- **Created a fine-tuned generative AI model** using **Python, TensorFlow, and Scikit-learn** to create new product concepts from over 10,000 data points, including social media (Instagram, Twitter, Facebook) and consumer relations data.

Cognizant

Generative AI Extern – Infrastructure/Machine Learning

Union City, California

Apr. 2024 – Aug. 2024

- **Developed a predictive maintenance system** for Cognizant's IT infrastructure, preventing **13 potential failures**, saving **\$230,000+** in maintenance costs over 3 months. Deployed across **10 major facilities**, impacted **over 200 servers**.
- Utilized **Python, TensorFlow, and scikit-learn** for model development, integrated with **SQL** databases for data storage. Deployed models using **Flask** and **Docker** and monitored performance with **Grafana**.

Scale AI

AI/ML Intern – Training Data

San Francisco, California

Feb. 2024 – May 2024

- **Fine-tuned custom-built LLMs** using the **Hugging Face Transformers library**, optimizing models like **GPT-3.5, BERT, and T5** for code generation and evaluation. Reduced false positive rates by **12%** across **3 critical AI/ML pipelines**.
- Collaborated with the research team to enhance model performance, delivering a **10% increase in operational efficiency** and documented findings for future improvements.

PROJECTS

PokerProCalc: Intelligent Poker Odds Analyzer

Python, PyQt, matplotlib, unittest, AWS Sagemaker, HuggingFace, socket

Madison, Wisconsin

Jan. 2024 – Feb. 2024

- Developed an app which accurately calculates live Pre-flop, Post-flop odds/hand equity on a card by card basis when entered by users. As the number of hands played and entered increases, player range prediction accuracy increases.

tExtractor

Python, tensorflow, scipy, numpy, OpenCV, Pillow, pyYAML

Madison, Wisconsin

Sep. 2023 – Nov. 2023

- Designed and developed a program that learns and deciphers text from images and PDFs using OCR (Optical Character Recognition) and basic machine learning.

ACTIVITIES AND LEADERSHIP

AI Club

Backend Developer, Sign Language Recognition Team Leader

Madison, Wisconsin

Oct. 2023 – Current

- Led a student team to develop a system that used image recognition and machine learning to translate ASL to audio in real time.

Wisconsin Men's Club Volleyball

Co - Captain

Madison, Wisconsin

Sep. 2022 – Current

- Co-Captain of the Wisconsin Men's Club Volleyball team

SKILLS

Programming: Python, Java, C, C++, R, HTML/CSS, JavaScript, SQL, Apex, Swift, OCaml

Developer Tools: Git, Github, UNIX, Docker, K8, Node.js, GDB, Jenkins, VS Code, Kubeflow, DVC

Frameworks: Numpy, Pandas, React, Vue, Next, Flask, Pytorch, CUDA, Tensorflow, seaborn, SK-learn, Keras

Cloud/DB: AWS(Bedrock, Lambda, S3, Sagemaker), Hadoop, GCP, MySQL, MongoDB, Firebase, Supabase