Akash Bhat

US Citizen| Madison, WI | +1 (608) 640-1689
aabhat@wisc.edu | linkedin.com/in/akashbhat1 | github.com/quentesia

Education

University of Wisconsin Madison – BS in Computer Science, Data Science Expected May 2026
Dean's List — Fall 2025, Fall 2024, Spring 2024, Fall 2023 **3.700 GPA**
Relevant Coursework: Algorithms, Operating Systems, DBMS, Matrix Methods in ML, Parallel & Throughput Optimization, Regression Trees

Experience

Software Engineering Intern, Skylark Drones May 2025 – Present
- Built and deployed a bench detection microservice using LoG, DBSCAN, and graph-based algorithms, enabling sub-minute digitization of 100 GB drone GeoTIFFs. Reduced processing time by 90% and increased edge detection accuracy from 65% to 96% for billion-dollar mining clients
- Enabled scalable, fault-tolerant microservice deployment on AWS by optimizing GeoTIFF processing with NumPy and Docker in an agile Scrum environment

Undergraduate Peer Mentor – Programming III, UW Madison Sep 2024 – Present
- Provided weekly tutoring to students in Java data structures on Object-Oriented Programming, Red-Black Trees, Git and JUnit Testing
- Created supplementary materials and interactive coding challenges that are used in course curriculum

Software Developer Intern, Numberz.ai July 2023 – August 2023
- Accomplished secure data ingestion for AI equity research, achieving 30% faster API response times by developing RESTful endpoints using FastAPI and AWS Lambda
- Enabled scalable sentiment analysis on financial texts, processing over 500K documents by optimizing Apache Spark pipelines integrated with scikit-learn models

Open Source

Anvil – AI-Powered Dependency Manager pypi.org/project/anvil-py
- **Published PyPI Package:** anvil-py – Autonomous dependency upgrade system with LLM-driven changelog analysis and breaking change prediction
- Architected multi-format package manager supporting pip, poetry, uv, and conda with safe rollback mechanisms
- Implemented LLM-based forensic analysis for changelog reasoning and automated upgrade decision-making

Skills

Languages / Frameworks: C, C++, Java, Python, Rust, Bash, SQL, JavaScript, React, Next.js
Machine Learning / AI: PyTorch, scikit-learn, TensorFlow, HuggingFace
Backend: Docker, Kubernetes, FastAPI, REST APIs, Web Services, RabbitMQ, Apache Spark, AWS, Unix/Linux, PostgreSQL, Redis, MongoDB
Development Tools: Git, Crucible, Jenkins, Pytest, CI/CD, Jira, Agile/Scrum, Claude/Gemini (for Research)

Projects

Asynchronous ML Model Training Web Service github.com/quentesia/Distributed-ML-Training-Platform
- **Tech Stack:** Python, FastAPI, RabbitMQ, Celery, Redis, PyTorch, Docker
- Designed distributed ML training web service with FastAPI REST APIs, RabbitMQ message queuing, and Celery workers, processing 10K dataset batches/day with 50% reduced latency via Redis caching
- Architected microservices-based system supporting scalable fault-tolerant distributed computing and parallel processing of 5K concurrent tasks on AWS
- Deployed containerized web services on Docker/AWS with CI/CD pipelines, enabling efficient model versioning