AKASH DANDA

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EDUCATION

University of Illinois Urbana-Champaign — Champaign, IL
Computer Science + Anthropology, 3.8 GPA — *May 2027*
Relevant Coursework & Self Study: Data Structures and Algorithms, Calculus III, Linear Algebra, Discrete Structures, OOP in C++, OOP in Java, Statistics and Probability, Software Design Lab, Distributed Systems

EXPERIENCE

Software Engineer — Aug. 2024 - Present
Disruption Lab at Gies
- Building production ID verification pipeline with React & Python for KYC platform **serving 100+ partners** across **18 global markets**, processing **30M+ verifications annually** with **165+ country document support**
- Migrated database from SQL to Neo4j, **reducing dependency search by 95% (5s to <250ms)**
- Designed a frontend using React, Next.js & Tailwind for projects, **achieving <2s dashboard load times**
- Optimized player movement in Unity by implementing C# scripts **improving frame rate stability by 25%**
- Developed real-time lip syncing algorithm for VR by analyzing the volume of WAV outputs from TTS API

Software Engineer — Oct. 2025 - Present
Expertly
- Engineering automated form document processing system using OpenAI API, React, Node.JS & MongoDB to extract & structure data from **4,000+ page reports, mantaining accuracy of 95%**
- Piloted system across **2 physician practices**, reducing manual completion from **10 hours to 15 minutes(97%)**

Software Intern — May. 2025 - Aug. 2025
Tightrope Interactive
- Architected scalable document processing pipeline on GCP handling **100K+ financial documents**, improving accuracy **from 0.79 to 0.91 F1** through custom validation logic and error correction
- Developed Flask microservices with Docker containerization and GitLab CI/CD, reducing **deployment time from 2 hours to 15 minutes & enabling 3x faster iteration cycles**
- Integrated batch processing system **boosting token efficiency by 110%, cutting API costs by $900/month**

Computer Vision Researcher — Sept. 2025 - Nov. 2025
University of Illinois at Urbana-Champaign
- Engineered & optimized visual object tracking pipeline in PyTorch on Ego4D dataset, **reproducing 49% improvement** in spatio-temporal AP compared to prior approaches
- Developed a text-to-visual query system that embeds natural language into vision models for object localization, enabling multimodal retrieval across cluttered scenes and long-duration video datasets

PROJECTS

Distributed MapReduce Framework | *Python, Flask, Multi-threading* — Nov. 2025
- Engineered distributed MapReduce system with fault tolerance **achieving 2.45x speedup across 3 worker nodes** via heartbeat monitoring and automatic task reassignment
- Implemented hash-based partitioning to distribute **9M+ key-value pairs** across reducers, coordinating map-shuffle-reduce phases via Flask APIs for parallel execution

LicenseTracker | *YOLOv11, Roboflow, Streamlit, AWS EC2, S3, Textract* — Aug. 2025
- Fine-tuned YOLOv11 on **10k+ license plate images**, achieving **mAP@50 of 0.96** for plate detection
- Built a real-time recognition system using AWS Textract and Streamlit for OCR-based output
- Deployed the system on AWS EC2; image storage and retrieval through AWS S3 buckets for scalability

TECHNICAL SKILLS

Languages: Python, C++, Java, Javascript, SQL, C#, HTML, CSS, Cypher
Frameworks/Libraries: React, Node.js, Express, Flask, Django, Streamlit, Firebase, Next.js, Tailwind CSS, Pandas, NumPy, Ultralytics, Matplotlib, Neo4j, WPIlib, Sci-kit Learn, Pytorch
Developer Tools: Git, Docker, Kubernetes, Microsoft Azure, GCP, AWS, Linux, Google Colab, Postman
Awards: Eagle Scout, USACO silver, FRC Highest Rookie Seed @ Worlds, 1st at ITF Taekwondo Nationals