Krish Gandhi

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Education

University of Illinois Urbana-Champaign May 2027
Master of Computer Science in Computer Science *Urbana, IL*

University of Illinois Urbana-Champaign May 2026
Bachelor of Science in Computer Engineering, **Bachelor of Science** in Statistics, Minor in Business *Urbana, IL*
Activities: Quant @ Illinois, Financial Engineering Club, Intramural Football, Intramural Basketball
Courses: Distributed Systems, Database Systems, Algorithms, Machine Learning, Operating Systems, Data Structures

Experience

Parasol Lab | University of Illinois Urbana-Champaign Aug. 2025 – Present
Software Developer *Urbana, IL*

- Will be using C++ to develop STAPL (Standard Template Adaptive Parallel Library), an open-source framework for developing parallel programs in both shared and distributed memory parallel systems.

Optum Jun. 2025 – Aug. 2025
Software Engineering Intern *Eden Prairie, MN*

- Built and containerized code analysis tool using Python, Docker and AWS ECS to evaluate company codebase.
- Hosted app on AWS EKS with Kubernetes LoadBalancer, distributing traffic and reducing request latency by 87%.
- Designed an event-driven pipeline using GitHub Webhooks, AWS API Gateway, and AWS Lambda to process push events and update code evaluation scores in AWS DynamoDB.
- Leveraged Databricks and scikit-learn to develop a CatBoost classification model to predict patient claim outcomes.

Quant at Illinois | University of Illinois Urbana-Champaign Feb. 2025 – Present
Quantitative Developer *Urbana, IL*

- Vectorized articles using FinBert embeddings and trained an XGBoost model to predict and trade on price deltas.
- Developed a FX trading strategy in Rust using Floyd-Warshall's algorithm to execute triangle arbitrage trades.

Optum Jun. 2024 – Aug. 2024
Software Engineering Intern *Basking Ridge, NJ*

- Created a CI/CD pipeline to automate unit testing of 250+ critical components with Apache Kafka, GitHub Actions, AWS S3 and Java to increase system security and save $300,000+ in resources and 2,600 man hours annually.
- Built a full-stack web app using Flask to automate network analysis, speeding up process by 81%.
- Developed a script to determine 185 relevant GitHub repos out of 30,000 and parse from the configuration files.

Projects

Dynamic Compute Cluster | *K3s, SLURM, Ansible, Rust, Go*

- Architecting an 8-node hybrid compute cluster with 64 cores and 128 threads and dynamic switching between Kubernetes (k3s) and Linux SLURM for containerized and HPC-style workloads.
- Developing a custom job scheduler with Rust to estimate resource requirements and route workloads to nodes.
- Designing a job submission and node monitoring dashboard using Go to provide real-time system metrics and logs.

RISC-V Operating System | *C, RISC-V Assembly, QEMU Emulator*

- Built a Unix-like RISC-V operating system from scratch using C and Assembly, featuring concurrency, memory virtualization, a filesystem, interrupts, device I/O, forks, pipes, paging, syscalls, and user/kernel space separation.
- Virtualized UART, RTC, RNG and memory block VirtIO devices to implement preemptive interrupts, serial communication, random number generation, and filesystem persistence.
- Developed an ELF loader and shell capable of runnning interactive programs (Trek, Rogue, Zork, and Doom).

Technical Skills

Languages: Python, C++, C, Rust, Java, JavaScript, SystemVerilog, R, RISC-V Assembly, Bash, MATLAB
Frameworks: React, Astro
ML/AI: PyTorch, scikit-learn, OpenCV, HuggingFace
Databases/DBMS: Snowflake, Databricks, AWS RDS, AWS DynamoDB, MongoDB, PostgreSQL, MySQL, SQL
Cloud Computing: AWS, GCP, Supabase, Render, Vercel
DevOps: Docker, Kubernetes, Terraform, Ansible, Jenkins, Apache Kafka, GitHub, GitHub Actions, SSH