Arshiya Gupta

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EDUCATION

University of Illinois at Urbana-Champaign
Champaign, IL
B.S. in Computer Science, Minor in Statistics and Mathematics | GPA: 3.9/4.00
May 2026

SKILLS & INTERESTS

Languages: C/C++, Python, Java, JavaScript, TypeScript, Rust, HTML/CSS
Frameworks/Tools: React, Next.js, Node.js, Spring Boot, Flask, NumPy, Pandas, Prometheus, Docker, Kubernetes
Relevant Coursework: Database Systems, Cybersecurity, Systems Programming, Data Structures, Algorithms

EXPERIENCE

Axon
Software Engineering Intern
May 2025 - August 2025
- Improved system modularity and independent service scaling by 100% by replacing database writes with HTTP API calls.
- Reduced test setup time by 40% by building a configurable Gatling test tool using parameterized load profiles.
- Prevented 5+ production outages by enabling real-time latency and throughput monitoring using Grafana dashboards.
- Increased test coverage by 50% for ingestion workflow handling 70PB/month by deploying a Scala-based load testing platform on Azure.

PayPal Inc.
Lead Software Engineering Intern
May 2024 - August 2024
- Enhanced system reliability reducing production incidents across 3+ services by implementing error handling modules.
- Secured 5+ CI/CD pipelines cutting token exposure risk by 95% by enforcing TLS and masking credentials in logs.
- Reduced auth-errors by 33% by implementing token-based systems with expiration and role-based access control policies.
- Boosted Order API performance by 35% supporting 3M+ daily transactions via code refactoring and query optimization.

HackIllinois
API Team
Sept 2024 - Present
- Scaled API capacity to support 5k+ hourly requests by designing RESTful backend architecture with 30+ endpoints.
- Ensured secure API access for 5k+ users by implementing multi-factor JWT authentication with key rotation and encryption, reducing unauthorized access attempts by 90%.
- Increased event check-in reliability by 30% by developing a microservice API with WebSocket and end-to-end testing.

CS Student Ambassadors / Research Scholars (CS STARS)
January 2023 - Present
- Reduced data collection costs by 80% by engineering zero- and few-shot learning, eliminating historical data requirements.
- Increased predictive accuracy by 30% by developing a Rust hyperparameter optimizer using Bayes optimization techniques.

University of Illinois at Urbana-Champaign
Undergraduate Teaching Assistant
January 2024 - Present
- Designed MIPS-based SpimBot challenge, demonstrating CPU architecture concepts for a cohort of 500+ students.
- Reduced grading time by 75% across 10k+ daily submissions by scripting automated workflows in Python and Bash.
- Implemented buffer overflow protection and secure memory addressing within the low-level system architecture.

PROJECTS

SkyTrack: Airplane Tracking System
January 2025 - April 2025
- Reduced flight lookup latency by 70% by designing normalized schema with multi-attribute indexing on flight schedules and aircraft metadata.
- Maintained data integrity across 6+ tables by implementing foreign key constraints, custom triggers, and cscading updates.
- Reduced notification latency to 1.5 seconds by optimizing trigger-based alerts for flight status changes.

Notionize: Weekly automation tool
December 2024
- Reduced weekly planning time by 70% by building a Discord-based task sync bot with smart multi-source parsing.
- Synced 1k+ daily events between Google Calendar and Notion with 99% uptime using Flask and Notion API.
- Optimized API efficiency reducing calls by 80% and slashing response time from 2s to 300ms with SQLite caching.

Discoverify: Smart Music Exploration Tool
August 2023 - November 2023
- Reduced song recommendation processing time by 35% for 1k+ track library by implementing optimized MySQL indexing on audio features and user preference data
- Improved playlist generation response times from 2s to 900ms by implementing Redis caching for frequently accessed track metadata and similarity scores
- Enhanced user experience with 85% satisfaction rate by implementing collaborative filtering algorithm that analyzes tempo, key, and genre compatibility for smooth transitions