

ARHAAN GIRDHAR

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Education

- **Manipal Institute of Technology, Manipal** Manipal, India
B.Tech - Computer Science and Engineering (AI & ML); GPA: 7.2 *Aug 2022 - Aug 2026*
Relevant Coursework: Operating Systems, Data Structures, Algorithms, OOP, Artificial Intelligence, Machine Learning, Software Engineering, Computer Vision, Deep Learning, Reinforcement Learning, Database Management, Parallel Programming, Web Development, Distributed Systems

Skills Summary

- **Languages:** Java, Python, JavaScript, C/C++, TypeScript, Kotlin
- **Frameworks:** Spring Boot, FastAPI, Django, Flask, Next.js, Node.js, React Native
- **Databases:** PostgreSQL, MySQL, Redis, SQLite, Kafka, MongoDB, DynamoDB
- **DevOps:** AWS (Lambda, Bedrock, Step Functions, EC2, S3, RDS), Azure, Docker, Kubernetes, Git, CI/CD
- **AI & ML:** LangChain, LangGraph, MCP, RAG, Hugging Face, PyTorch, TensorFlow, Scikit-learn, OpenCV

Experience

- **Amazon** Hyderabad, India
Software Developer Intern - Ordering Team *Jan 2026 - Jun 2026*
 - **Reversal Automation:** Developed an end-to-end payment reversal pipeline using AWS Lambda and Step Functions, cutting resolution time from 2 minutes to under 10 seconds per batch across 36,000+ monthly records.
 - **Agentic AI System:** Shipped a production AI agent on Amazon Bedrock (LangChain) that autonomously investigates payment failures, classifies errors, and self-improves via a feedback loop - released team-wide.
 - **Infrastructure & Security:** Deployed a load-balanced operations fleet across NA, EU, and JP; submitted 15+ code reviews and closed a critical authorization vulnerability across 5 regions.
- **Concur IP (A Questel Company)** Noida, India
Artificial Intelligence & Machine Learning Intern *May 2025 - Jul 2025*
 - **Brand Protection at Scale:** Deployed ML pipelines monitoring 15+ global brands across 20+ e-commerce platforms, enabling large-scale detection of trademark violations across millions of listings daily.
 - **Intelligent Scraping Engine:** Engineered a scraping and ML filtering system (Python, Selenium, OpenCV, Scikit-learn) achieving 40% better detection accuracy and cutting manual review time by 75%.
 - **Scalable Data Infrastructure:** Designed PostgreSQL-backed ingestion pipelines standardizing data flows across all brand pipelines, reducing onboarding time by 60% and ensuring consistent model input quality.

Projects

- **MCP Marketplace** GitHub — mcpmarketplace.online
FastAPI, PostgreSQL, Redis, Next.js, Docker, TypeScript
 - **Registry:** Built an npm-style registry for MCP tools with Supabase auth, SHA-256 API keys, pg_trgm search, Redis caching, and sliding window rate limiting.
 - **Sandbox:** Designed a Docker-based pipeline validating each tool in a non-root, network-isolated, memory-constrained container before listing, integrated with S3 storage and transactional email.
 - **CLI & Discovery:** Shipped a TypeScript CLI (mcp-get) with publish, install, search, and update commands plus an AI-driven discovery layer for natural language MCP server recommendations.
- **Autonomous Incident Response Agent** GitHub
Java, Spring Boot, LangChain4j, PostgreSQL (pgvector), Redis
 - **Multi-agent Orchestration:** Architected a multi-agent SRE platform where five specialized sub-agents collaborate under a central orchestrator to resolve production incidents in under 90 seconds.
 - **Pipeline:** Constructed a four-phase pipeline with parallel CompletableFutures, thread-safe context sharing, graceful failure handling, and confidence score calibration across agents.
 - **Runbook & Alerts:** Implemented a runbook agent with pgvector semantic search and LLM reranking, and a communicator agent generating Slack alerts and postmortem summaries.

Achievements & Certifications

- **Freelance:** 5 clients across web automation, data pipelines, and agent-based apps.
- **LeetCode:** 200+ problems solved; consistent top-percentile performance.
- **Hackathons:** 5+ international hackathons in agentic AI and distributed systems.
- **Research:** Co-authored RL paper on humanoid motion analysis using MuJoCo and LSTM models.
- Foundations of AI & ML — Microsoft
- Programming with Java — AWS
- Backend Development — Meta
- Cloud Core Fundamentals — Google
- DevOps and Software Engineering — IBM
- Applied Software Engineering Fundamentals — IBM