

Shreyas Deb

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EDUCATION

International Institute of Information Technology, Hyderabad <i>B.Tech. in Computer Science and Engineering (CGPA: 8.71)</i>	Aug. 2023 – May 2027 Hyderabad, Telangana
Alpine Public School, Bangalore <i>CBSE Board (Percentage: 95.8%)</i>	June 2021 – May 2023 Bengaluru, Karnataka

EXPERIENCE

Undergraduate Researcher <i>Center for Computational Natural Sciences and Bioinformatics (CCNSB)</i>	Aug. 2025 – Present Hyderabad, Telangana
<ul style="list-style-type: none">Conducting research under Dr. Vinod P K, focusing on the computational modeling of complex biological systems through the lens of Systems and Network Biology.Investigating the intersection of Deep Learning and Network Biology to decipher emergent disease mechanisms, integrate multi-omics data, and predict clinical outcomes for precision medicine.	
AI/ML Engineering Intern <i>MontyCloud</i>	May 2025 – July 2025 Bengaluru, Karnataka
<ul style="list-style-type: none">Built a production-grade Agentic Suite for Product Management as part of the PM360 team, including a Spec Writer, Meeting Analyzer, and Product Value Agent, increasing PM efficiency by 40%.Designed multi-agent LLM systems using GraphRAG pipelines grounded in a Neo4j Knowledge Graph with temporal memory and vector search (via Azure AI Search), and deployed them on a fully serverless AI backend using AWS, with agent workflow orchestration via AWS Strands and MCP (Model Context Protocol) servers.Achieved 80%+ reduction in spec creation time and 90%+ spec accuracy; deployed globally (US, EU, India) and delivered robust ingestion pipelines from Jira, Confluence, and meeting data.	
Software Engineering Intern <i>uExcelerate</i>	Jan. 2025 – April 2025 Hyderabad, Telangana
<ul style="list-style-type: none">Developed a scalable Learning Management System (LMS) with an enhanced UI and personalized content delivery, increasing user engagement by 35% and improving average session duration by 25%.Designed and implemented a modular recommendation system using hybrid filtering techniques (content-based, collaborative, and interest-based), achieving 80%+ recommendation accuracy and enabling seamless future expansion for personalized user experiences.	
Software Intern <i>Texperia</i>	Jan. 2025 – Feb. 2025 Bengaluru, Karnataka
<ul style="list-style-type: none">Optimized the frontend architecture for the Playda platform, achieving a 32% reduction in average page load time and improving interaction responsiveness by ~25% for monthly visitors.Contributed to the U.S. market expansion initiative by redesigning and localizing U.S.-facing pages, directly supporting a projected 40% increase in user acquisition at launch.	

PROJECTS

AIshA - Advanced Intelligent Shell Assistant <i>C, POSIX APIs, OpenSSL, Gemini AI</i>	GitHub
<ul style="list-style-type: none">Built a fully-featured Unix shell from scratch in C99 with integrated Gemini AI, supporting 40+ built-in commands, background job control, custom line editing, and natural language command translation.Implemented raw termios-based readline for auto-completion and history browsing, achieving zero external dependencies except OpenSSL for HTTPS API integration.Designed modular architecture with POSIX-compliant process control (fork, exec, waitpid), signal handling, and custom JSON parsing for AI responses.	
Docs++ - Distributed File System <i>C, Networking, Concurrency, System Design</i>	GitHub
<ul style="list-style-type: none">Developed a distributed file system with sentence-level locking for concurrent edits, achieving Google Docs-like collaboration with real-time access control and version management.Architected a 3-tier system with Name Server coordination, multiple Storage Servers, and client connections, implementing 12+ core operations including streaming, versioning, and hierarchical folders.Achieved data persistence, comprehensive ACL-based permissions, and efficient file search with checkpoint-based version control and undo functionality.	
shAI - Natural Language Shell Assistant <i>Python, LLMs, Ollama, CLI Tools</i>	GitHub
<ul style="list-style-type: none">Created a CLI tool that translates natural language to bash commands using local Ollama models (CodeLlama), with query validation and safety checks before execution.Implemented 3-stage validation pipeline: query appropriateness check, command safety analysis, and detailed execution reporting with error handling.Achieved local-first privacy by running entirely on-device without cloud dependencies, suitable for security-conscious environments.	
Saathi - AI Mental Wellness Platform <i>Next.js, FastAPI, OpenAI, Multi-Agent Systems</i>	GitHub

- Built a **PWA mental health companion** with **5 specialized AI agents** for active listening, guided coping, multi-disciplinary advisory, privacy safeguards, and local support connections.
- Designed **gamification features** including achievement badges, mood-based Spotify integration, and dynamic color schemes with crisis mode for immediate escalation.
- Implemented **privacy-first journaling** with AI-powered insights, anonymous community forums, and guided reflection prompts for structured self-analysis.

TECHNICAL SKILLS

Languages: C, C++, Python, JavaScript/TypeScript, SQL, Bash, Assembly (RISC-V/x86), Rust, HTML/CSS

Systems & Backend: POSIX APIs, Socket Programming, Multithreading, Linux Kernel, FastAPI, Node.js, Express.js, GraphQL, REST APIs, Redis, MongoDB, PostgreSQL, System Design

AI/ML & Data: PyTorch, TensorFlow, LangChain, OpenAI API, Ollama, RAG (GraphRAG), Vector DBs (Azure AI Search, Pinecone), Neo4j, Scikit-learn, Pandas, NumPy

Cloud & DevOps: AWS (Lambda, Strands, S3), Azure, Docker, Kubernetes, Git, GitHub Actions, Jira, Confluence

RELEVANT COURSEWORK

Data Structures & Algorithms | Operating Systems & Networks | Computer Systems Organization | Design and Analysis of Software Systems | Statistical Methods in AI | Probability and Random Processes | Linear Algebra | Discrete Mathematics

LEADERSHIP & EXTRACURRICULAR

Tech Team Head

Aug. 2024 – Present

E-Cell IIIT Hyderabad

- Spearheaded the technical operations for the Entrepreneurship Cell, maintaining the official server infrastructure and ensuring 98% uptime for portals.
- Managed the technical team for **Megathon**, the largest student-run hackathon in Hyderabad, overseeing registration portals and live event dashboards.
- Assisted in organizing flagship events and workshops, fostering a spirit of entrepreneurship and innovation across the campus community.

Team Member - Open Source Developers Group (OSDG)

March 2025 – Present

IIIT Hyderabad

- Contributing to the campus open-source ecosystem by organizing workshops and maintaining student-run projects.