

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 on computational models for biological systems, focusing on optimizing algorithms for large-scale genomic data analysis.Developing efficient data pipelines using Python and C++ to process high-dimensional biological datasets, integrating statistical methods for pattern recognition.	
Software Development 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.