ROUNAK DAS

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SUMMARY

Computer Science undergraduate with strong project-based experience in AI-driven applications, game development, and system/software architecture. Built machine learning prototypes, gameplay systems, and full-stack tools using Python, C++ and Lua, with emphasis on performance, debugging, and maintainable code. Currently seeking internships where I can deepen my work on AI and high-performance software systems.

TECHNICAL SKILLS

Languages	Python, C/C++, Lua, JavaScript/TypeScript, Java, SQL
Frameworks & Libraries	React.js, Node.js, ShadCN, NumPy, Pandas, Scikit-learn, Firebase, SDL
Developer Tools	Git/GitHub, Neovim, Roblox Studio, Docker, Linux Terminal, CI/CD (GitHub Actions)
Platforms & OS	Windows, Linux, MacOS
Core Competencies	Data Structures and Algorithms (DSA), Object-Oriented Programming (OOPs), System Design, Compiler Design, Network Configuration & Troubleshooting

PROFESSIONAL EXPERIENCE

- **Freelance Game Developer**   *Roblox Platform*   *May 2021 – Present*
    - Architected and engineered systems for 15+ game titles, leading development from concept to deployment in collaboration with artists and designers.
    - Implemented robust, scalable datastore systems ensuring data integrity and persistence for thousands of concurrent users.
    - Developed modular combat frameworks and custom physics for movement and vehicle mechanics (air/water), enhancing gameplay and user engagement.
    - Engineered complex NPC AI using pathfinding (A*) and finite state machines, creating dynamic and responsive game environments.

PERSONAL PROJECTS

- **Bytecode Programming Language**   *C++, Compiler Design*   *2022*
    - Designed and built a custom bytecode-interpreted programming language from scratch, featuring a compiler and a virtual machine for execution.
    - Implemented support for core language features, including global/local variables, function calls, and control flow structures.
- **Game Boy Color Emulator**   *C/C++, System Architecture*   *2023*
    - Developed a functional CPU emulator for the Game Boy Color, focusing on instruction set accuracy and performance optimization.
    - Successfully passed standard CPU validation tests, demonstrating a deep understanding of low-level system architecture.
- **Full-Stack Web Applications**   *React.js, Node.js, Web Frameworks*   *Oct 2024*
    - Participated in college hackathons to build full-stack applications, including a collaborative study app and a real-time attendance tracker.
    - Explored and implemented both front-end and back-end frameworks to deliver complete web solutions.
- **Open Source Contributions**   *Embedded Systems, Python*   *Ongoing*
    - Contributed to the PocketPy project, an embedded programming ecosystem, by submitting bug fixes and feature enhancements.

EDUCATION

- **Motilal Nehru National Institute of Technology (MNNIT)**   *Prayagraj, India*   *Expected May 2028*
  Bachelor of Technology in Computer Science & Engineering
- **Indian School Muscat**   *Muscat, Oman*   *Graduated Apr 2024*
  Higher Secondary Examination (CBSE) – Scored 95.4%

ACHIEVEMENTS & AWARDS

Chairman's Award (2024): Awarded for achieving the highest grade (A1) in all subjects in the national CBSE board examinations.

Principal's Award for Academic Excellence (2024): Recognized for outstanding overall scholastic performance in Class 12.