

Satyam Ghosh

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EDUCATION

- Indian Institute of Information Technology Jabalpur
B.Tech in Computer Science Engineering

Jabalpur, India
Aug 2023 - May 2027

TECHNICAL SKILLS

- Programming Languages: Python, C++, Java SQL
- Databases: MySQL
- Tools & Technologies: Git, VS Code
- Technical Abilities: Debugging complex issues, optimizing database performance, developing scalable web applications

PROJECTS

Secure Password Encryption–Decryption System

C++, MySQL, OOP, Cryptography

- Encrypted 1,000+ user passwords via a C++ Caesar-cipher module.
- Integrated MySQL C API to store/retrieve encrypted credentials with 0
- Applied OOP abstractions to reduce code duplication by 40
- Engineered validation routines to handle alphanumeric/special inputs with 99

VocaNova – Voice-Activated Virtual Assistant

Python, Speech Recognition, TTS, Web Automation

- Built speech-to-text pipeline handling 20+ commands/min with 95
- Automated 5+ web tasks (Google, YouTube, local music) via `webbrowser` and OS calls.
- Modularized code into 4 components (`speak.py`, `weather.py`, etc.) boosting maintainability.
- Delivered dynamic voice responses using gTTS, improving engagement by 30

CPU Scheduling Simulator

C++, STL, OOP, Process Scheduling

- Engineered a modular C++ simulator supporting eight scheduling algorithms (FCFS, RR, SPN, SRT, HRRN, FB-1, FB-2i, Aging).
- Processed up to 1,000 processes/run, computing finish, turnaround, and normalized turnaround times in $O(n \log n)$.
- Rendered console Gantt charts via a 2D timeline array, ensuring 100% trace accuracy for up to 10,000 time units.
- Integrated a custom parser (`parser.h`) for dynamic algorithm selection and statistics output, reducing setup overhead by 80%.

ACHIEVEMENTS

- LeetCode Performance: Achieved **1700+** rating, ranked **2764**, solved **400+** problems.
- CodeChef Rankings: Secured **global rank 784** in "Starters 176" with a **1461** rating.
- Hackathon Finalist: Finalist in "Can You Hack It" hackathon (Aug 2024), developed a full-stack solution.

PROFILES

- LeetCode: leetcode.com/u/3qQDY4J2YE
- CodeChef: codechef.com/users/satyamghosh89
- LinkedIn: linkedin.com/in/satyam-ghosh-43b81a290