

Hiren Joshi

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EDUCATION

Parul Institute of Technology, Vadodara

Bachelor of Technology in Computer Science

CGPA: 7.89

Sep. 2021 – May 2025

MPIA School, Sagwara

Completed HSC in Physics, Chemistry, Mathematics

Percentile: 95.80

July 2020 – July 2021

Ashirwad Niketan School, Diwara Chhota

Completed SSC with core subjects including Maths and Languages (Class Rank: 2nd)

Percentile: 89.50

March 2018 – March 2019

EXPERIENCE

C++ Trainee (1 Month Summer Internship)

ByteXL

May 2024 – June 2024

University-Affiliated Program

- Developed **20+ C++ console applications**, applied **OOPs principles (encapsulation, abstraction)** to design **modular class hierarchies** for **extensible systems**. Engineered **memory-efficient solutions** using **raw pointers, STL containers**. Achieved **Valgrind-validated leak-free** core modules via **RAII-inspired manual memory management**.
- Designed **user-friendly console interfaces** with **robust input validation** and **error handling**, achieving **crash-free operations**.
- Wrote **modular, production-grade C++ code** adhering to **95% of Google Style Guide standards (RAII, const-correctness, 2-space indents)** with **highly readable code** through **necessity-driven comments**.

PROJECTS

Cross-Platform C++ PowerShell (Windows & Linux Compatible)

- Designed and implemented a **robust, cross-platform shell** with full support for Windows API and POSIX system calls, including process management, file-directory management, and terminal display control.
- Engineered a **dynamic command parsing engine** supporting flexible syntax (`type nul>f1 f2, echo content >f1 f2`) and multi-file or folder operations where needed, such as **file creation, deletion, content merging, Overcoming and enhancing Windows PowerShell limitations**.
- Developed **25+ system-level commands** with full OOP pillars (**encapsulation, inheritance, polymorphism, abstraction**) and modular design for maintainability, readability, and scalability.
- Implemented advanced **process management** with safe termination checks for critical system processes, supporting dynamic input of single or multiple PIDs and process names. Overall **efficiently supporting both PID and process-name based operations across OSes**.
- Maintained **clean, LLD-focused code architecture**, ensuring high cohesion, low coupling, and extensibility for new commands and future support.

ACHIEVEMENTS

Competitive Programming

- Knight on LeetCode (Rated 2100+)**
- Biweekly Contest 161: **Global Rank #163 | National Rank #59**
- Top 1% LeetCode** (All-Time National Rank: **2117/187,190**)
- 890+ Days Coding Streak** on LeetCode
- Solved **2100+ algorithmic problems** (**1300+ on LeetCode, 400+ on Codeforces**)
- [LeetCode/hirenjoshi](#) | [CodeFolio/hirenjoshi](#)

Applied Problem Solving

- Algorithmic Rubik's Pyraminx Solver**: Manually solved using **permutations via backtracking**, derived **11 distinct patterns**, and achieved **blindfolded solves all without external help**. [\[Video Walkthrough\]](#)

Core Strengths

- Rapidly** identify and implement **algorithm optimizations** for **maximum efficiency**.
- Developing **high-performance solutions** while maintaining **clean, readable code**.

Technical Efficiency

- 75-100 WPM typing speed**

TECHNICAL SKILLS

Languages: C/C++

Developer Tools: VS Code

Others: Data Structures and Algorithms, Operating Systems, Object-Oriented Design and Programming, Computer Networks, Database Management Systems

SOFT SKILLS

- **Fluent in English** (Written and Verbal), with strong communication and presentation skills.
- **Strong teaching skills** with the ability to explain complex technical concepts clearly.