Hiren Joshi

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EDUCATION

Parul Institute of Technology, Vadodara   CGPA: 7.89
Bachelor of Technology in Computer Science   *Sep. 2021 – May 2025*

MPIA School, Sagwara   Percentile: 95.80
Completed HSC in Physics, Chemistry, Mathematics   *July 2020 – July 2021*

Ashirwad Niketan School, Diwara Chhota   Percentile: 89.50
Completed SSC with core subjects including Maths and Languages **(Class Rank: 2nd)**   *March 2018 – March 2019*

EXPERIENCE

C++ Trainee (1 Month Summer Internship)   May 2024 – June 2024
ByteXL   *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**.
- Built **user-friendly console interfaces** with strong validation and error handling for **crash-free execution**. Wrote **modular, production-grade C++** following **Google Style Guide** (RAII, const-correctness) with clean, well-documented code.

PROJECTS

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

- Developed a **robust cross-platform shell** supporting Windows API and POSIX, with integrated **process, file-system, and terminal management**.
- 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. Built **safe, cross-OS process management** with critical-process protection and multi-PID/name support, backed by a **clean, extensible LLD architecture**.

ACHIEVEMENTS

- **Expert at CodeForces**
- **Knight on LeetCode (2100+ Rated)**
- Biweekly Contest 161: **Global Rank #163** | **National Rank #59**
- **Top 1% LeetCode** (All-Time National Rank: **2117/187,190**)
- **1000+ Days Daily Challenge Streak** on LeetCode
- Solved **2400+ algorithmic problems** (1400+ on **LeetCode**, 500+ on **CodeForces**)
- **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]
- LeetCode/hirenjoshi | CodeForces/hirenjoshi | CodeFolio/hirenjoshi

SKILLS

- **Languages**: C/C++
- **Developer Tools**: VS Code
- **Courseworks**: Data Structures and Algorithms, Operating Systems, Object-Oriented Design and Programming, Computer Networks, Database Management Systems
- **Fluent in English** (Written and Verbal), with strong communication and presentation skills
- **Strong teaching skills** with the ability to explain complex technical concepts clearly
- **80–100 WPM** typing speed