# VIVEK TIWARI

Virar, Mumbai, Maharashtra

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## Education

**Indian Institute of Information Technology, Bhagalpur**                     2021 − 2025
*Bachelor of Technology in Computer Science*                                  *CGPA: 8.05*
- − Relevant Coursework: Data Structures & Algorithms, Operating Systems, DBMS, Computer Networks, OOPS.

## Technical Skills

**Languages**: C++, JavaScript (ES6+), Python, SQL, Java (Basics), Dart
**Backend Frameworks**: Node.js, Express.js, RESTful APIs, JWT Auth, Mongoose ODM
**Databases**: MongoDB (Aggregation Pipelines, Indexing), MySQL, Firestore (NoSQL), Redis (Caching)
**DevOps & Cloud**: Docker (Containerization), Git/GitHub Actions, Firebase Cloud Functions, Postman
**CS Fundamentals**: System Design (HLD/LLD), OOP Principles, OS Concurrency, Networking Protocols (HTTP/WS)

## Experience

**Chalhitsir (Startup)**                                                 May 2024 − July 2024
*Software Engineering Intern*                                                       *Remote*
- − Collaborated with the backend team to integrate **MapMyIndia APIs**, optimizing geospatial data retrieval speeds by implementing efficient query parameters.
- − Engineered robust data synchronization modules between the mobile client and Firebase backend, reducing data fetch latency by approx. **30%**.
- − Participated in architectural code reviews, enforcing strict type-safety and error-handling protocols to prevent runtime failures in production.
- − Assisted in the migration of legacy API endpoints to a more REST-compliant structure, improving documentation and developer usability.

## Technical Projects

**DevOverflow - Stack Overflow Clone Backend** | *Node.js, Express, MongoDB, Docker*        **Mar 2025**
- − Architected a scalable REST API backend handling complex relationships between Users, Questions, Answers, and Tags.

- − Implemented **Role-Based Access Control (RBAC)** and secure JWT authentication to manage user permissions and session integrity.
- − Optimized MongoDB queries using indexing and **Aggregation Pipelines** to efficiently retrieve filtered and sorted data sets.
- − Containerized the entire application stack using **Docker**, ensuring environment consistency across development, testing, and production stages.
- − Established a CI/CD workflow foundation and wrote comprehensive API documentation using Postman.
- − **GitHub Link:** github.com/vivekTiw120303/DevOverflow

**Naam Jaap - Serverless Cloud Architecture** | *Firebase Cloud Functions, NoSQL*             **Sept 2025**
- − Designed a **Serverless backend** using Firebase Cloud Functions to handle compute-heavy tasks like global leaderboard aggregation off the main thread.
- − Structured a high-performance NoSQL (Firestore) database schema to support real-time data syncing for thousands of concurrent users.
- − Implemented optimistic UI updates and offline persistence logic, ensuring data consistency even during intermittent network connectivity.
- − Integrated secure third-party payment and advertisement SDKs, managing webhooks and server-side verification for transaction validity.
- − **Live App:** play.google.com/store/apps/details?id=com.vivek.naamjaap

## Achievements

Solved **1000+ Data Structures and Algorithms problems** on LeetCode [Handle: vivekTiw03], ranking in the top percentiles for consistency.

Demonstrated strong grasp of optimization techniques, consistently reducing Time and Space complexity in competitive solutions.

Proficient in **Japanese** (Professional Working Proficiency), demonstrating linguistic adaptability and dedication to continuous learning.