

HARSH OGALE

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Education

Veermata Jijabai Technological Institute, Mumbai

Aug. 2023 – Present

*Bachelor of Technology: Major in **Electronics and Telecommunication***

CPI: 7.6/10

*Minor in **Artificial Intelligence and Machine Learning***

Mumbai, Maharashtra

Ratanbai Walbai Junior College of Science, Mumbai

Jun. 2021 – Jun. 2023

HSC: 82.17% | MHTCET: 99.59%ile | JEE Mains: 98.00%ile

Internship

RBI - Department of Information Technology

Jun 2026 – Jul 2026

Software Engineering Intern

Mumbai

- Collaborated on the redesign of the organization's website, reviewing **Figma prototypes** to identify design ambiguities and proposing **UX/UI improvements** to enhance usability and visual consistency.
- Facilitated the migration from **Elasticsearch** to **Semantic search**, enabling more accurate, human-level language understanding for search queries.
- Upgraded the caching architecture by integrating **Varnish** alongside **Redis**, improving cache efficiency and response times.

Projects

VJTI QuadSpace 🐙 | *Node, Express, MongoDB, Cloudinary*

Jan 2026

- Designed and developed a **scalable backend system** for a college social media platform supporting posts, messaging, and real-time interactions.
- Built **RESTful APIs** using Node.js and Express.js for efficient data handling and service integration.
- Implemented structured **MongoDB data models** ensuring data consistency and performance optimization.
- Integrated **Cloudinary** for media storage and collaborated with frontend teams to ensure seamless end-to-end data flow for a platform serving **100+ active users**.

LAN Mesh 🐙 | *libp2p, Multicast DNS, MediaRecorder API*

Apr 2026

- Built a **serverless P2P communication system** in Go using libp2p and mDNS, enabling real-time text and voice messaging across LAN devices with zero internet dependency.
- Implemented browser-based voice note recording and transmission using the **MediaRecorder API** and libp2p streams.
- Designed a full-mesh **encrypted network topology** with TLS 1.3, eliminating single points of failure.
- Achieved **sub-second message and audio delivery** over local Wi-Fi with automatic peer discovery in under 2 seconds.

HealthCare+ 🐙 | *Next.js, Supabase, Python, SerpAPI*

Apr 2025

- Developed an **AI-driven digital healthcare platform** integrating fitness, nutrition, and medical data.
- Implemented **data preprocessing and analysis pipelines** for disease prediction and health insights.
- Designed modular services for nutrition tracking, mental health analysis, and medical record management.
- Implemented an **agentic AI workflow** that interprets user intent and emotional context to autonomously route users to relevant services.

Technical Skills

Languages: C/C++, JavaScript, Python, SQL, HTML/CSS

Technologies: React.js, Next.js, Node.js, Express.js, FastAPI, libp2p

Database: MongoDB, MySQL, Supabase

Concepts: Data Structures & Algorithms, OOP, Operating Systems, RESTful APIs, System Design, Caching (Redis, Varnish), Semantic Search

Tools: Git, GitHub, Cloudinary, Postman

Extracurricular

- **EY Techathon 2026 Semi-Finalist** – Ranked in the top 300 out of 1,80,000+ participants nationwide, demonstrating strong problem-solving and technical skills under competition.
- **Winner, Innovative Minds Hackathon** – Secured first place by designing and presenting an innovative technical solution under competitive, time-constrained conditions.
- **Community of Coders (COC VJTI) Mentor** – Mentoring junior students in project development and coding practices.