

SARTHAK TIWAD

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Dombivli, Maharashtra, India

PROFESSIONAL SUMMARY

versatile Engineering Undergraduate with a strong track record in **Game Development**, **AI/ML Pipelines**, and **Hardware Integration**. Proven ability to lead development teams (shipping games with 10k+ downloads) and architect complex backends (IIT Bombay Research). Winner of Smart India Hackathon (SIH 2024). Seeking to leverage deep technical skills in physics simulation, backend architecture, and full-stack development.

EXPERIENCE

Machine Intelligence Program, IIT Bombay

Research Intern & Backend Developer

Mumbai, India

June 2024 – Dec 2024

- **Strato (AI in Finance):** Architected a seamless dashboard for HNIs to track Mutual Fund flows. Developed the complete backend pipeline to process financial data and serve analytics.
- **Dhatuveda (Mineral Exploration):** Built an AI-driven prediction system for boreholes and ore bodies. Handled data ingestion, model integration, and API development for geological data visualization.
- Implemented robust backend security and data optimization techniques for large-scale datasets.

Freelance Game Development (Self-Employed)

Remote

Team Lead & Gameplay Programmer

Dec 2023 – Present

- **Leadership:** Managed a team of 2 junior developers. Conducted code reviews, assigned tasks, and ensured architectural consistency across projects.
- **Cricket Game:** Developed a mobile cricket simulation (clone of Cricket League) from scratch. Implemented realistic ball physics, batting mechanics, and opponent AI.
- **Grow Garden:** Designed and programmed a "Space Farming" strategy game. Created the economy system, inventory management, and save/load systems.
- **Raffel Game:** Integrated a bill-checking system into a gamified lottery experience using OCR/Validation logic.

Social Crumble (Marketing Firm)

Remote

Full Stack Web Developer (Freelance)

Aug 2023 – Dec 2023

- Delivered 3+ production websites for clients including **Derma**, **Everbloom**, and **Aptorea**.
- Handled full deployment cycle: Requirements gathering, UI implementation, and server hosting.

Origami Games

Remote

Junior Game Developer

Feb 2023 – July 2023

- Engineered multiplayer functionality for "Floors of Fear" (Horror Game) using networking solutions (Photon/Mirror).
- Optimized memory usage and frame rates for hyper-casual mobile titles.

KEY PROJECTS

Droplet: Smart Irrigation System | IoT, AI, Mobile App

SIH 2024 Winner

- Developed an intelligent irrigation planner for farmers that recommends water schedules based on soil data.
- Integrated a recommendation system to optimize water usage. (Relevant for Ministry of Water Dept)

Custom Thermal Drone | C++, Embedded Systems, Physics

Personal Project

- Engineered a life-saving drone from scratch, writing the **Flight Controller logic** in C++.
- Implemented PID tuning for stability and integrated thermal camera feeds for search-and-rescue ops.

Vigi Car | AI, IoT, Chatbot

Academic Project

- Created an AI-integrated device to collect and analyze car diagnostics (OBD metrics).
- Built a chatbot interface allowing non-technical users to query "What is wrong with my car?" in natural language.

PrepAI | GenAI, Speech-to-Speech

Hackathon

- Built a resource management tool for exams featuring Speech-to-Speech AI and YouTube API integration for auto-generating study playlists.

Blockchain Lottery System | Solana, Web3, Rust

Personal Project

- Developed a transparent lottery system on the Solana Blockchain ensuring fair play and immutable transaction records.

EDUCATION

Shivajirao S Jondhale College of Engineering

Dombivli, MH

Bachelor of Engineering in Computer Engineering (Expected)

July 2026

- **Achievement:** Winner of National Level Hackathon (SIH 2024)

VPM Polytechnic

Thane, MH

Diploma in Computer Engineering (89.31%)

Sept 2023

TECHNICAL SKILLS

Languages: C#, C++, Python, Java, JavaScript/TypeScript, SQL

Game Dev: Unity 3D/2D, Physics Simulation, Multiplayer Networking (Photon/Mirror), Flight Controllers

Backend/Web: Node.js, PHP, Laravel, AWS, Firebase, REST APIs

AI/Data: Machine Learning Pipelines, Computer Vision (OpenCV), LLM Integration