



Rajatkumar Vishwakarma

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B.Tech

Mechanical Engineering

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EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech. Major	Indian Institute of Technology Indore	8.15	2022-Present
Senior Secondary	HSC Board	80.67%	2022
Secondary	SSC Board	93.80%	2020

EXPERIENCE

• BNY Mellon

May 2025 - Jul. 2025

Pune

- Updated the backend infrastructure of derivatives trade **microservices** to shift from **NoSQL** to **SQL**-based database making the backend more consistent and efficient - **Java, Spring Boot, JPA, REST APIs, Agile**
- Built a configurable **dual-database layer** to support controlled cutover/rollback between NoSQL and SQL backends, maintaining service compatibility during migration.
- Achieved annual cost savings of **>\$105k** by retiring the old NoSQL database.
- Introduced modern data transformation techniques in legacy systems, making the workflow more efficient. The solution won **2nd place** in a global internal derivatives Hackathon.

• Tecnod8.ai

Jun. 2024 - May 2025

Remote

Software Developer Intern

- Developed **AI agents** for process automation and integrated with simulation engines - **MCP, LangGraph, FastAPI**.
- Designed and developed a modular digital twin **simulation engine** with end-to-end integration. **C#, Unity, WebGL**.
- Utilized Cloud services (**VPS, GCP, Azure**) to deploy and maintain multiple applications - **Cloud, DevOps, Linux**.
- Optimized the application and managed deployment using **docker containers** reducing memory usage by up to 30%.
- Integrated **generative AI** workflows into MVP application to reduce manual intervention by up to 70%.

PROJECTS

• heybud – An AI-powered Terminal Assistant

Nov. 2025 – Present

Github

Open Source Project

- Developed an intelligent, context-aware **command-line assistant** that generates explanations and shell commands.
- Engineered a layered architecture with **CLI**, service, and **LLM orchestrator** layers supporting multi-provider AI backends (**OpenAI, Gemini, LLaMA**).
- Implemented **same-shell execution**, enabling commands to run within the active shell environment.
- Designed a **regex-based risk engine** to detect unsafe command patterns and assign dynamic safety scores.

• CODE-G

Feb. 2024 - Mar. 2024

Volvo Eicher Commercial Vehicles Ltd.

- Engineered a modular **simulation platform** to replicate Titan-EV inspection and repair workflows.
- Modeled **7+** different mechanics and real world failure cases of the vehicle.
- Built learning modules with **event-driven logic** and state management to train technicians on repair protocols.
- Designed a modular diagnostics management system, enabling scalable addition of repair procedures.

TECHNICAL SKILLS

- **Programming:** Python, Java, C++, C#
- **Frameworks:** Spring Boot, Flask, FastAPI, Node.js/Express, LangGraph, Model Context Protocol (MCP), Unity
- **Databases:** MySQL, MongoDB, Oracle Exadata, JPA/Hibernate, Redis
- **Cloud/DevOps:** GCP, AWS, Docker, CI/CD Pipelines
- **Tools/Other:** Data Structures & Algorithms (DSA), System Design, Git, GitHub, Linux, SSH, HTML, CSS, JavaScript, Testing (JUnit, Pytest), Multithreading, Agile, OpenCV, Selenium, BeautifulSoup, Arduino

POSITIONS OF RESPONSIBILITY

- **Game Dev Lead**, Google Developer Student Club, IIT Indore
- **Team Lead**, InterIIT Techmeet 12, 13
- **Domain Lead**, Game Dev Domain IITISoc'24, IIT Indore
- **Co-ordinator**, Glitchpop 3.0 Game Jam

Sept. 2023 - Nov. 2024

Sep. 2023 - Dec. 2024

May 2024 - Aug. 2024

Mar. 2024 - Mar. 2024

ACHIEVEMENTS

- **Gold Medal**, Game Dev Division, IITISoC'23, IIT Indore
- **AIR-7266**, JEE Advanced 2022

2023

2022