

Kartik Rana

Software Engineer · AI & Game Development

kartikrana34r@gmail.com
linkedin.com/in/kartik-rana137
kartikrana.work
github.com/Kartik-rana137

PROFILE

Software engineer and B.Tech CSE (AI) student at Dayananda Sagar University, after five years studying computer science in Germany. I build full-stack tools end to end, from data and algorithms to interfaces anyone can use, and lead hackathon teams that ship fast. Focused on AI and game development.

SELECTED PROJECTS

ALICE

github.com/Kartik-rana137/ALICE

Local AI mentor for coding, coursework and research

BACHELOR THESIS PROJECT · NOV 2026

- Built an AI mentor that runs Qwen3.5-9B entirely on the user's own GPU through llama.cpp, so conversations, papers and memory stay local.
- Answers from the user's papers and textbooks with cited passages (hybrid vector and keyword search), and flags citations or numbers that weren't retrieved.
- Checks its own work with a calculator and an approval-gated code runner for Python, C, C++ and Java; cut median time to first word from 21 s to about 1 s by fixing prompt caching.

Python · llama.cpp · Qwen3.5-9B · RAG · JavaScript · WebView2

Mars Explorer

github.com/Kartik-rana137/MarsExplorer

Mars EVA planner for Mount Sharp, Gale Crater

NASA SPACE APPS 2026 · LEAD DEVELOPER · TEAM OF 6 · NOV 2026

- Led development of a habitat planning tool that routes astronaut walks around ground steeper than the crew's limit and draws the **turn-back line** from life support and daylight.
- Built on 6 NASA datasets, including a 1 m elevation grid and 4,745 sols of Curiosity weather data; a storm drill replays the real May 2024 solar storm.
- 3D terrain map with a drivable rover on a Python route-search API, shipped for the web and as apps for Windows, macOS and Android.

TypeScript · Python · FastAPI · NumPy & SciPy · MapLibre GL · three.js · Vite

TOP SKILLS

- **Software Development**
- **Project Management**
- **Team Leadership**

TECHNICAL

Programming

Python · TypeScript · C · C++ · C# · Java · SQL

AI & infrastructure

Artificial Intelligence · LLMOps · RAG · llama.cpp · Docker · PostgreSQL

Frameworks & libraries

Next.js · FastAPI · three.js · MapLibre GL · NumPy & SciPy · Vite

Design & media

AutoCAD · AutoCAD Architecture · AutoCAD Mechanical · Adobe Premiere Pro · Adobe After Effects · Video Editing · Microsoft Excel

Kartik Rana · Software Engineer

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EDUCATION

Dayananda Sagar University CURRENT
Sep 2026 – Apr 2030
B.Tech, Computer Science Engineering (Artificial Intelligence) · Bengaluru, India

E-CAD Technologies
2025 – 2026
Diploma, AutoCAD (2D + 3D)

University of Konstanz
Oct 2021 – Mar 2025
B.Sc. studies, Computer Science · Konstanz, Germany

HTWG Konstanz, University of Applied Sciences
2020 – 2021
Studienkolleg, Informatics · Konstanz, Germany

Shah International School
Graduated 2019
High School Diploma, Computer Science

ALSO SKILLED IN

Science & research

Theoretical Physics
Chemical Engineering
Biotechnology
Technical Research
Analytical Skills

Leadership & communication

Team Management
Public Speaking
Technical Writing
Time Management
Communication

LANGUAGES

- English
- Hindi
- German

LINKS

PORTFOLIO
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GITHUB
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