

Atharv Rawat

arawat3103@gmail.com ❖ arawat3103@icloud.com ❖ +91 7357304963 ❖ github.com/atharvesting

Undergraduate computer science student focusing on low-level systems and edge AI applications.

EDUCATION

Birla Institute of Technology, Mesra (Jaipur Campus)

2025 - Present

Engineering College

Jaipur, Rajasthan

- B.Sc. Artificial Intelligence and Data Science
- Subjects: C, Python, Data Structures and Algorithms, Advanced Mathematics, Operating Systems etc.
- Semester 1 GPA: **9.79**

European School RheinMain

2019 - 2024

Gymnasium (German High School)

Bad Vilbel, Germany

- Grade 8 - 12
- Advanced Courses - Physics, Maths, Technical Drawing, Music
- Grade 12 Final Report - 89.3% - Physics (93%), Maths (89%), English (91%), Technical Drawing (100%) with 5 more subjects.
- Best performance out of the whole batch in English

PROJECTS

[Jaipur LULC Classification](#) — Python, Rasterio/GeoPandas, scikit-learn, QGIS

March 2026

- Built a complete remote-sensing ML pipeline: Landsat band clipping (Rasterio mask + CRS reprojection) → index-based feature engineering (NDVI/NDWI/NDBI) → training/eval + visualization.
- Trained/evaluated classical supervised models (Decision Tree, Random Forest, SVM) with imbalanced-data handling (SMOTE) and produced reproducible outputs (classification reports + confusion matrices + model summary CSV).

[Markov / N-gram Text Predictor](#) — C++ (STL), weighted sampling, arena trie

February 2026

- Implemented probabilistic next-word prediction via inverse transform sampling over learned transition frequencies (n-gram Markov model).
- Evolved the implementation from a procedural bigram map-of-maps predictor to an OOP model interface, then to an arena-backed trie with dictionary ID encoding for scalable n-gram context storage.
- Built text preprocessing + tokenization pipeline and generated coherent sequences from seed context.

[Terminal Arcade Survival Game](#) — C++20, Windows Console API, chrono, callbacks

May 2026

- Built a real-time console game with a delta-time loop (`std::chrono`) and flicker-free rendering via a manual screen buffer (`CreateConsoleScreenBuffer` + `WriteConsoleOutputCharacter`).
- Designed an extensible entity system (`Fallable` → `Ball/PowerUp`) with `std::unique_ptr` ownership, collision handling, and probabilistic spawning via a tunable spawn table.
- Refactored power-ups from “subclass per power-up” inheritance to a composition-first callback architecture (`std::function` activate/deactivate), improving maintainability and making new effects plug-in simple.

WORK EXPERIENCE

Air India | Intern | June 2022 – July 2022 | Frankfurt am Main, Germany

- My main tasks were data analysis, pricing and marketing with the MS Office Suite as my main tool. Worked on new advertising strategies. My brochure was presented at a trade fair in Berlin.

HPP Architekten | Intern | June 2023 - July 2023 | Frankfurt am Main, Germany

- Understood the process of architecture with Rhinoceros 3D as the main tool, created floor plans, 3D models and renderings of my flat and built a detailed model of my flat with polystyrene.

CERTIFICATIONS, COMPETENCES, INTERESTS and LANGUAGES

- **Certifications:** ISA Winter Training and Internship Program on RS/GIS, House of Innovation Hackathon 2nd prize winner
- **Competences:** Proficient in Python (Scripting, Machine learning, Automations) and C/C++
- **Hobbies:** Writing/graphic design (competition winner); music production; sports (Eurosport 2024: Football, Volleyball, Aquathlon)
- **Linguistic Competencies:** English (C2), German (C1), Hindi (C2)