



Lakshay
Bachelor of Technology
in Artificial Intelligence and Data Engineering
Indian Institute Of Technology, Ropar

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EDUCATION

Degree	Institute/Board	CGPA/Percentage	Year
Bachelor of Technology	Indian Institute of Technology, Ropar	8.45	2023-2027
Senior Secondary	Central Board of Secondary Education	91%	2023
Secondary	Central Board of Secondary Education	92%	2021

PROJECTS

- **Memory Management System** Aug 2024 – Sep 2024
Developed a modular and configurable memory management system in C/C++ **GitHub**
 - Simulated virtual memory in C/C++ with map-based, single-level, and multi-level page tables, configurable via 'config.hpp'.
 - Built a Memory Manager to handle dynamic allocation and requests across multiple task instances.
 - Implemented per-task page tables using trace files of hex addresses and memory sizes (KB/MB).
 - Tracked page hits/misses, invalid accesses, and execution time via a Performance Module.
 - Created a multithreaded trace generator and test suite, outputting detailed CSV performance reports.
 - Automated build, test, and execution with a custom Makefile for reproducible results.
- **SastaFlix** Jul 2024
Prototype of a Streaming Website for Movie and Series Recommendations **GitHub**
 - Built a machine learning-based recommendation system using a Kaggle dataset containing user ratings and metadata of movies and series.
 - Integrated the ML model into a prototype streaming website to provide personalized content recommendations to users.
 - Designed and deployed a user-friendly interface simulating a real-world OTT platform.
 - Focused on enhancing recommendation accuracy using similarity metrics and filtering techniques.
- **Anime Recommendation System** Jul 2024
Personal Project **GitHub**
 - Developed a content-based and collaborative filtering recommendation system using a Kaggle anime dataset.
 - Implemented machine learning models to suggest anime based on user preferences, ratings, and similarity metrics.
 - Processed and cleaned over 100k user-anime interaction records to improve recommendation accuracy.
 - Visualized dataset characteristics using Seaborn and Matplotlib to uncover key trends and support model evaluation.
- **ShopX – E-commerce Platform** Apr 2025 – Present
Ongoing Personal Project **GitHub**
 - Developing a full-stack e-commerce website supporting multiple users and store owners using HTML, CSS, JavaScript, Node.js, Express.js, and MongoDB.
 - Implementing core features including user authentication, product management, cart and wishlist functionality, and user-generated reviews and ratings.
 - Enabling store owners to add, update, and delete products, with real-time updates and a good UI for seamless interaction.
 - Utilizing MongoDB to manage product catalogs, user data, and transactions, ensuring data integrity and scalability.

TECHNICAL SKILLS

- **Languages:** C/C++, Python, HTML, CSS, Javascript, Shell Script
- **Machine Learning:** ML Algorithms, Neural Networks, NLP, Basics of CV
- **Libraries/Frameworks:** TensorFlow, Flask, NodeJS, ExpressJS, Tailwind CSS, Seaborn, OpenCV, Sci-kit learn
- **Tools:** Git, GDB, VS Code, LaTeX, Linux Shell, MongoDB, HuggingFaceApi

KEY COURSES TAKEN

- **CSE:** Data Structure & Algorithms, Computer Systems
- **AI:** Mathematical Foundation of AIDE, Machine Learning
- **Maths:** Calculus, Linear Algebra, Optimization Techniques
- **Electrical:** Signals and Systems, Control Engineering
- **Others:** Economics, Biology

POSITIONS OF RESPONSIBILITY

- **Branch Representative,** AIDE, IIT Ropar Jul. 2024 - Jul. 2025
- **Co-Head,** Zeitgeist, IIT Ropar Jun. 2024 - Nov. 2024

MISCELLANEOUS

- **ATF Stage 1 Qualified,** Ranked among the top 20% of a pool exceeding 20,000 applicants. 2024
- **Machine Learning A-Z [Udemy],** Completed course on core ML algorithms, real-world projects using Python 2024