Piyush Jhamnani
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Bachelor of Technology

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Mechanical Engineering

Github | Website

Indian Institute Of Technology, Jodhpur

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EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech.	Indian Institute of Technology, Jodhpur	8.38	2025
Senior Secondary	CBSE Board	93.6%	2021
Secondary	CBSE Board	94.4%	2019

EXPERIENCE

- **Mathrithms Technologies Pvt. Ltd. (Aikin)** *Summer Internship*
  Software Development Intern
  - Designed a Retrieval-Augmented Generation (RAG) system, integrated various Ollama and embedding models, and assessed the performance to ensure optimal result.
  - Preprocessed unstructured data, applied keyword detection algorithms for specific fields, stored embeddings in MongoDB Atlas vector database, and implemented semantic search for efficient retrieval.
  - Developed a full-stack application with a Node.js backend, implemented MongoDB aggregation pipelines for efficient data retrieval, and created an analytics database for comprehensive analysis of traffic.
  - Created a resume-building ReactJS platform with a user-friendly interface, designed a dashboard integrated with backend, implemented lazy loading to optimize bandwidth and managed the authentication of application.

PROJECTS

- **Skin Attachable Strain Sensors**
  Dr. Shrutidhara Sarma | IIT Jodhpur
  - Created a microcontroller-based calibration system using Cypress PSoC and Arduino Uno to accurately measure strain up to 400 microns.
  - Implemented an intelligent resistor selection algorithm, allowing seamless pairing of sensors with corresponding resistors to reduce setup time and remove manual intervention during experiment.
  - Developed a Python module that produces a range of visualizations and analytical results from a readings table, enhancing data visualization and analysis capabilities.

- **Real Time Video Processing Web App**
  Team Project *GitHub | Website*
  - Engineered a client-side web application with chroma-keying functionality, demonstrating problem-solving skills for seamless background removal.
  - Led the development of video processing logic, implementing chroma-keying for both image and video backgrounds.

KEY COURSES TAKEN

Data Structures and Algorithms, Intro to Machine Learning, Scientific Computation, Intro to Computer Science, Computational Fluid Dynamics, Control of Mechanical System, Introduction to IoT

TECHNICAL SKILLS

- **Programming:** C, C++, Python, JavaScript, TypeScript, Golang, SQL
- **Frontend:** HTML, CSS, React JS, React Native, Tailwind CSS, Bootstrap, Shadcn/ui
- **Backend:** Node.js, Django, Flask, NextJS, MongoDB, Firebase, FAST-API
- **Microcontrollers:** Arduino UNO, Cypress PSoC, Raspberry Pi
- **Utilities:** Git, Github, Docker, Postman, Prisma

SOCIETIES

- **Core Team Member,** DevlUp Labs, Open Source club of IITJ
- **Web Master,** Association for Computing Machinery (ACM), IITJ

ACHIEVEMENTS

- Holding **Department Rank-6** in B.Tech ME'25.
- Among the few Students who scored **A grade** in both DSA and Machine Learning course.
- Completed **400+** questions on **Leetcode**.
- Secured **AIR-9146** in JEE-Advanced and **AIR-12131** in JEE Mains.