



Avani Rai

Roll No.:B22CS094

B.Tech in Computer Science and Engineering

Indian Institute Of Technology, Jodhpur

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EDUCATION

Degree/Certificate	Institute	CGPA/Percentage	Year
B.Tech (CSE)	Indian Institute of Technology, Jodhpur	9.04 (Current)	2022-Present
Senior Secondary	Wardman Convent H.S. School, Nagda(MPBSE Board)	89.2%	2022
Secondary	Aditya Birla Public School, Nagda (CBSE Board)	97.2%	2020

EXPERIENCE

Undergraduate Student Researcher

January 2024 - May 2024

Indian Institute of Technology, Jodhpur(IITJ)-Dr. Rajendra Nagar & Dr. Mitali Mukerji





- Engineered an **Ayurvedic phenotype classification** system using computer vision and deep learning.
- Developed custom facial masking system to extract pixel data from 4 key facial regions, to be used as attributes for classification.
- Deployed model pipeline leveraging ResNet and multi-layer perceptron models for phenotype prediction.
- Achieved **75%** classification accuracy despite of limited dataset of **120 samples**.
- Reduced phenotype prediction time from **30 minutes** (questionnaire-based) to under **2 minutes** (computer vision-based), achieving a **15x improvement**.

PROJECTS

ColorVista | Dr. Romi Banejee

February 2024 - April 2024

CSS, HTML, JavaScript, Nativefier



Website  

- Designed website and web app for color vision deficiency solutions.
- Incorporated **color blindness testing, color correction algorithms and visual simulation tools**.
- Integrated best software engineering practices throughout development lifecycle for proficient project execution.
- Orchestrated **agile methodology**, crafted **SRS** document, and conducted thorough **risk analysis**.

Face Identification and Recognition | Dr. Anand Mishra

March 2024 - April 2024

ComputerVision, ML and DL, Python, Pandas, Numpy, Matplotlib

Website  

- Optimized face identification and recognition leveraging HoG, LBP and CNN methods for feature extraction and implemented ML models including ANN, SVM, decision trees etc. for comparison.
- Analyzed performance on a dataset of over **1,000 images**.
- Obtained best results with ResNet50 for feature extraction coupled with ANN, attaining **80% accuracy**.
- Executed image comparison feature to detect similarity/difference percentage between two images.

RELEVANT COURSEWORK

Mathematics: Probability, Statistics & Stochastic Processes, Maths for Computing, Linear Algebra & Calculus

Computer Science: Data Structures & Algorithms, Pattern Recognition & Machine Learning, Software Engineering

Interdisciplinary Courses: Foundations of Quantum Information, Signals & Systems, Digital Design

Current Courses: Operating Systems, Computer Architecture, Database Systems

TECHNICAL SKILLS

- Skills:** Data Structures & Algorithms, Machine Learning, Web Development
- Languages:** C++, C, Python, HTML/CSS/JavaScript
- Tools & OS:** Latex, Github, Jupyter Notebook, Google Colab, Solidworks, Windows
- Libraries/Frameworks:** Pandas, Numpy, scikit-learn, Matplotlib, Seaborn, TensorFlow, PyTorch

POSITIONS OF RESPONSIBILITY

Student Guide, Student Wellbeing Committee, IIT Jodhpur

June 2023 - May 2024

Joint Secretary, Sangam (Music Society @ IIT Jodhpur)



August 2023 - Present

Assistant Head, Informals Team, Prometeo'24 (Tech & Entrepreneurial Fest of IIT Jodhpur)

January 2024

EXTRACURRICULARS AND ACHIEVEMENTS

- Switched branch **from EE to CSE** by achieving **9+** CGPA and ranking in **top 5%** of students in the batch.
- Earned **A* (exceptional)** grade in Software Engineering course, **one of only two** recipients.
- Secured **Runner-up position among 125 teams** in WorldQuant's International Quant Championship 2024 Stage-1.
- LeetCode & GFG: Solved **50+** DSA problems.
- Senior Diploma in Classical Music (Vocals)** | Prayag Sangeet Samiti, Allahabad.

LeetCode  | GFG 

June 2014 - June 2018