

# Abu Shahid

Final (B.Tech); CSE @IIT Jodhpur

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## Education

### B.Tech in Computer Science and Engineering

8.61 CGPA

#### Intermediate

98.5% CISCE

#### High School

96% CISCE

IIT Jodhpur

2020-2024

City Montessori School, Lucknow

2017-2019

St. Thomas College, Lucknow

2005-2017

## Experience

### AttentionTag

Machine Learning Engineer

Aug'24- Present

Bengaluru, India

- Streamlined ML deployment pipelines porting PyTorch models to TensorFlow.js, enabling efficient on-device inference and real-time analytics integration.
- Optimized model performance with rigorous benchmarking across 20+ devices, improving inference speed, memory usage, and user experience.
- Integrated LLM-based chatbots with context-aware prompts and interactive visualizations for improved user interaction and data insights.
- Worked on integrating and optimizing emotion detection, gesture recognition, and gaze tracking to run of edge.
- TensorflowJS, PyTorch*

### Microsoft- Bing

Microsoft Academic Partnership Fellow

July'23- May'24

Bing, India

- Worked on multiple-moment retrieval from videos using natural language queries, exploiting audio and visual modalities.
- Used Video Language Models, Youtube-8M and GPT4o to generate novel dataset with 12500+ datapoints.
- Paper accepted in ICVGIP'24.
- PyTorch, SQL, Python, Prompt Engineering, VLMs*

### Decimal Point Analytics

Data Science Intern

May'23- July'23

Mumbai, India

- Developed state-of-the-art models for Optical Character Recognition, catering to specific use case of financial document recognition.
- Delivered novel dataset with 2 million plus datapoints and improved over all inference time and performance.
- PyTorch, Python, SynthTIGER, Parseq*

### Anonymizer Hackathon by Govt. of WB

Silver Medalist

Mar'23- Aug'23

- Secured second position among 500+ teams, providing solutions for surveillance video and natural document anonymization, demonstrating scalable architecture balancing security and utility.
- Tuned the surveillance model for resource constrained cameras.

- *OpenCV, YOLO, Python, PostgreSQL*

## NCVPRIPG'23

*Jan'23- July'23*

*Challenge Organizer*

*IIT Jodhpur*

- Challenge organizer of '**Summer Challenge on Writer Verification**' @ NCVPRIPG'23, managing the end-to-end process of the project, starting with data creation and cleaning. Established baseline performance for the model development.
- Developed interactive website, conducted QnA sessions, and prepared conference proceedings for NCVPRIPG'24.
- *PyTorch, Python*

## Introduction to Machine Learning

*Aug'22- Dec'22; Aug'23- May'24*

*Teaching Assistant*

*IIT Jodhpur*

- Supported students' learning as a TA for the course by preparing lab questions, participating in weekly lab sessions, and addressing students' doubts.
- *Numpy, Jupyter, Google Colab*

## Projects

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### Feature-based Image Stitching Benchmark

*Jan'23- March'23*

*OpenCV, Python*

- Pioneered a novel approach combining feature extraction, matching, and blending stages for image processing pipelines.
- Evaluated the effectiveness of the approach using Google Landmarks database and a custom dataset, measuring accuracy, speed, and visual quality.
- **Links:** github; paper; youtube

### Indic OCR

*Jan'23- July'23*

*OpenCV, PyTorch*

- Developed an OCR system for handwritten Hindi text, employing classical methods like VGG, RCNN, and ResNet
- Achieved 91% validation label accuracy and 97% character accuracy, implementing Permuted Autoregressive Sequence Models.
- **Links:** web

### ISRO (Inter-IIT TechMeet)-Automatic Identification of Solar Bursts

*Feb'22- March'22*

*AstroPy, Flask, Python*

- Developed a statistical learning model and web-based app to detect and categorize X-ray bursts.
- Attained 95% accuracy for most categories, effectively analyzing and categorizing X-ray data.
- **Links:** github ; youtube

### Histopathologic Cancer Detection

*Jan'22- May'22*

*Pytorch, Streamlit*

- Conducted exploratory data analysis on tumor data and trained machine learning models to classify tumors.
- Developed a web-based application for tumor detection, showcasing expertise in data analysis and web development for medical applications.
- **Links:** report;

### *Extracurricular activities*

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**Student Mentor @Student Wellbeing Committee**

**Public Relations Head @Prometheo'23; Technical Fest @IIT Jodhpur**

**Core Member @LitSoc; Literature Society @IIT Jodhpur**

**Class Representative of B20CS'24**

**Initiator @Suckoon; The Word-Games Group**