Abu Shahid

Final (B.Tech); CSE @IIT Jodhpur
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Education

B.Tech in Computer Science and Engineering — *IIT Jodhpur*
8.61 CGPA — *2020-2024*

Intermediate — *City Montessori School, Lucknow*
98.5% CISCE — *2017-2019*

High School — *St. Thomas College, Lucknow*
96% CISCE — *2005-2017*

Experience

Microsoft AGP- Video Moment Retrieval — *July'23- Present*
Research Assistant — *Bing, India*

- Working on multiple-moment retrieval from videos using natural language queries, exploiting audio and visual modalities.
- Working on expanding the robustness as the current method can only deal with 2-3 minute videos.
- Created novel dataset to achieve the task and benchmarked various pre-existing baselines.

Decimal Point Analytics — *May'23- July'23*
Data Science Intern — *Mumbai, India*

- Developed state-of-the-art models for Optical Character Recognition.
- Combined pre-existing specific pipelines into one single master pipeline.
- Improved recognition of special characters pertaining to financial documents.
- Delivered novel dataset with 2 million plus datapoints.

Anonymizer Hackathon by Govt. of WB — *Mar'23- Aug'23*
Silver Medalist

- Secured second position in anonymization hackathon organized by Govt. of West Bengal among 500+ teams.
- Gave solutions for surveillance video anonymization and natural document anonymization.
- Solutions strikes a balance between security and utility.
- Demonstrated the scalability of our given architecture due to its lightweight and resource constraints.

NCVPRIPG'23 — *Jan'23- July'23*
Challenge Organizer — *IIT Jodhpur*

- Challenge organizer of **'Summer Challenge on Writer Verification' @ NCVPRIPG'23**
- Initiated and managed the end-to-end process of the project, starting with data creation and cleaning. Established baseline performance for the model development.
- Developed an interactive challenge website to engage participants and facilitate their understanding of the project's objectives and tasks.
- Conducted multiple QnA sessions to provide guidance and foster a collaborative learning environment, ensuring the project's success and participants' comprehension.

Introduction to Machine Learning — *Aug'22- Dec'22; Aug'23- May'24*
Teaching Assistant — *IIT Jodhpur*

- As a TA for the course, I was instrumental in supporting students' learning
- In addition to clearing their doubts and preparing lab questions, was part of weekly lab sessions and addressed their doubts.

Microsoft Cybersecurity Engage *May'22- June'22*
Mentee *IIT Jodhpur*

- Proposed a Cyber Deterrence Architecture for critical infrastructures of India
- Learned first hand from Security and Compliance professionals and grasped industry level security practises

Projects

Indic OCR *Jan'23- July'23*
OpenCV, PyTorch

- Developed an Optical Character Recognition (OCR) system specifically for handwritten Hindi text
- Employed classical methods such as VGG, RCNN, and ResNet to process and analyze the handwritten data
- Last worked on implementing Permuted Autoregressive Sequence Models
- Achieved impressive validation label accuracy of 91% and character accuracy of 97%
- **Links:** web

Feature-based Image Stitching Benchmark *Jan'23- March'23*
OpenCV, Python

- Pioneered a novel approach combining feature extraction, matching, and blending stages to enhance the effectiveness of 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

ISRO (Inter-IIT TechMeet)-Automatic Identification of Solar Bursts *Feb'22- March'22*
AstroPy, Flask, Python

- Developed a statistical learning model and a web-based application using open-source technologies to detect and categorize X-ray bursts.
- Attained an impressive 95% accuracy for all categories, with the exception of A-class flare, showcasing the ability to effectively analyze and categorize complex X-ray data.
- **Links:** github ; youtube

Histopathologic Cancer Detection *Jan'22- May'22*
Pytorch, Streamlit

- Conducted thorough exploratory data analysis (EDA) to gain insights into tumor data.
- Trained various machine learning models to classify tumors as benign or malignant.
- Developed a web-based application for tumor detection, showcasing expertise in both data analysis and web development for medical applications.
- **Links:** report;

Extracurricular activities

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

CyberSecurity Team Lead @Google Developer Student Club'23