Aman Shukla

India — Open to Remote / Relocation

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Summary

MCA graduate with hands-on experience in machine learning, data preprocessing, and deep learning–based computer vision projects. Built failure-aware ML systems, multimodal extraction pipelines, and applied robust evaluation metrics. Seeking entry-level AI/ML or data roles focused on applied problem-solving.

Projects

Failure-Aware Multimodal ML System
- Built a multimodal ML pipeline that monitored model confidence across OCR, image, and video outputs, flagging low-confidence predictions for manual review.
- Designed a shared inference workflow for OCR, X-ray images, and video inputs, including logging of failed predictions for later analysis.

Multimodal MCQ Extraction Pipeline
- Built an OCR-based pipeline to extract MCQ candidates from noisy classroom lecture videos.
- Applied frame-level aggregation and weak supervision to reduce noise and improve consistency in extracted questions.

MERN Chat Application
- Built a modular AI chat application with session management and role-based prompts.
- Implemented scalable backend–frontend integration using the MERN stack.

Research Experience

Bone Fracture Detection from X-ray Images   *Manuscript submitted*
- Trained and benchmarked CNN and transfer-learning models using fixed train–test splits and consistent preprocessing.
- Evaluated model robustness using F1, MCC, AUC-ROC, and mIoU to address class imbalance and accuracy bias.

Why Full Automation Failed: An Empirical Study
- Analyzed accuracy ceilings in automatic MCQ reconstruction from classroom board videos.
- Identified common failure patterns caused by occlusion, low contrast, and inconsistent board layouts.

Experience

Frontend Development Intern
- Developed and maintained responsive web interfaces using React, HTML, CSS, and JavaScript.
- Integrated frontend components with backend APIs and handled dynamic data rendering.
- Collaborated with team members using Git for version control and basic code reviews.
- Improved UI usability and fixed bugs to ensure cross-browser compatibility.

Education

Banaras Hindu University
Master of Computer Applications (MCA)   CGPA: 6.8
Aug 2022 – Nov 2024

Banaras Hindu University
Bachelor of Computer Science (B.Sc.)   CGPA: 7.9
Aug 2019 – Jul 2022

Skills

Python, Data Preprocessing & Cleaning, Exploratory Data Analysis (EDA), Machine Learning (Classification), Deep Learning (CNNs), TensorFlow/Keras, NumPy, Pandas, OpenCV, Git, GitHub