Atharva Chaudhari

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EDUCATION

University of Illinois Urbana-Champaign (UIUC) — GPA: 4/4
Master of Science in Information Management (2024-2026)

Vishwakarma Institute of Technology, Pune (VIT) — GPA: 3.5/4
B.Tech in Electronics and Telecommunication (2019-2023)

SKILLS

Programming Languages: HTML, CSS, JavaScript, Intel Assembly Language, C, C++, Python
Frameworks and Runtimes: Node.js, Express.js, React.js, Embedded Java Script (EJS)
Databases: MongoDB, MySQL
Packages: Data Structures, OOP's, OpenCV, Neural Networks, Pytorch, LLM
Computer Fundamentals: Operating Systems, Database Management Systems, Computer Networking
Code Management Tools: Visual Studio, Code Blocks, PyCharm, GitHub
Data Analysis and Visualization Tools: Tableau, Power BI, Jupyter Notebook

WORK EXPERIENCE

Adarsh College of Computer and Management — Akola, India
Lecturer — July 2023 to May 2024

- Delivered Comprehensive Lectures on C language, Data Structures, Operating Systems, Neural Networks
- Actively contributed to the school improvement committee, collaborating on initiatives to enhance academic outcomes
- Analyzed over 200 student records through advanced Excel functions, producing detailed reports that pinpointed key academic strengths and weaknesses, facilitating the development of individualized support strategies for enhanced learning outcomes

PROJECTS

Household Furniture Detection for Visually Impaired People (Link) — Aug 2021 to Dec 2021

- Implemented computer vision utility to classify and accurately identify household objects such as sofas, wardrobes, cupboards, and chairs
- Utilized the SIFT algorithm to detect local features
- Various classifiers such as **SVM**, **DT**, **RF**, and **KNN** are used for classification
- Decision Tree (DT) gives the highest accuracy of **77.64%**
- Technologies: Python, **OpenCV**, **Machine Learning**
- **Publication:** Presented paper at the 5th International Conference on Intelligent Computing (IEEE) (March 25-26, 2022) (Link)

Skin Cancer Classification and Detection using VGG-19 and DesNet (Link) — Jan 2023 to May 2023

- Developed a real-time skin cancer detection system with VGG-19 and DesNet architectures, achieving **97.29%** and **89.49%** accuracy respectively on dermatoscopic datasets (HAM10000, ISIC-2019)
- Enhanced model performance with data augmentation, skin lesion segmentation (BCDU-Net), and transfer learning, ensuring precise feature extraction and classification
- Integrated the system into a web application, providing real-time diagnosis with superior **precision (97.42%)** and recall **(97%)**, outperforming existing approaches
- Technologies: Python, TensorFlow, Keras, **Neural Networks**
- **Publication:** Presented paper at International Conference on Computational Intelligence, Network and Security (IEEE) (22-23 December 2023) (Link)

Feature Analysis and Clustering of Award-Winning Movies and TV Shows (Link) — Aug 2024 to Dec 2024

- Conducted predictive analysis to identify key factors influencing Oscar and Emmy awards, aiding stakeholders in the entertainment industry
- Built machine learning models (**XGBoost** improved **AUC-ROC** to **0.8029**)
- Preprocessed datasets using **Tableau Prep (ETL)** and Python for master data creation
- Designed interactive dashboards using **Tableau** and **Power BI** for insights on award trends, genres, and scores
- Technologies: Python (Random Forest, XGBoost), Tableau, Power BI, **SQL**, **ETL Tools**

Evaluating Semantic Understanding through Medical Text Classification (Link) — Jan 2025 to May 2025

- Built a large-scale benchmark of 12000+ medical question–answer pairs mapped to 1900 focus areas, performing rigorous cleaning, label canonicalization and one-line **verbalization** to feed **transformer** models
- Designed the "**lexical-scrubbing**" probe, an adversarial pre-processing step that removes every mention of the true focus term then used **McNemar's** test to quantify each model's reliance on surface cues versus real semantics
- Fine-tuned PubMedBERT with temperature-scaled cosine-similarity loss, reaching 99.64 % top-1 accuracy on raw text and 34.31% after scrubbing, twice the robustness of TF-IDF (17.19 %) and SBERT (13.12 %)
- Technologies: Python, PyTorch, **LLM (BERT, PubMedBERT, S-BERT)**, CUDA

CO- CURRICULAR ACTIVITIES

- Volunteering: VIT: Taught Mathematics to the 8th Std students in the school (Link)
- Masterclass in C: Certified in a year-long Masterclass in C including C Programming Language, Assembly programming on Linux using GNU toolchain, Linux System Programming, Windows System Programming, and GUI programming (Link)
- Seminar: Conducted a workshop on the future scope after completing BCA for 300+ students at Adarsh College, Akola, India
- ERA V2: Completed the Certified year-long course on Convolutional Neural Networks and Large Language Model (Link)