Adarsh Sasiprakash

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PROFILE

I am an aspiring postgraduate with an MSc in Artificial Intelligence and Machine Learning from the University of Birmingham. Over the course of my studies, I have developed a robust understanding of the field of Artificial Intelligence. I have practical experience in developing and utilizing Machine Learning models to solve various challenges by doing personal and academic projects. I am good at problem-solving and time management. I work well under pressure. My passion for Artificial Intelligence and Machine Learning and my strengths secured me first prize in a three-day competition on High-Performance Computing hosted by my university in association with NVIDIA and Lenovo. I actively seek opportunities to learn more, gain experience, and apply my skills to make a positive impact on society.

SKILLS

Programming Languages	**Version Control**	**Frameworks**
Python, C, C++, Java, SQL	Git	TensorFlow, Pytorch, sckit-learn, OpenCV
Machine Learning & AI	**Business Intelligence & Data Warehousing**	
Deep Learning, Data Preparation, HPC Systems , Generative Networks, Large language models, MLOps	Power BI, ETL Processes, Data Modeling, Data mining, Reporting, DAX and Power Query	

AWARDS

BEAR Challenge 2023 Winners 06/2023
University of Birmingham

- Won **first prize** in a three-day BEAR challenge competition on High-performance Computing (HPC) hosted by the University of Birmingham in association with NVIDIA and Lenovo.
- Led a team of 5 members (including myself) to complete various tasks, which included data visualisation, deep learning, modelling, job scheduling scripting and designing an HPC.
- This role strengthened my leadership, strategic planning, and technical skills in a competitive and collaborative environment.
- Secured **fifth position at the national level CIUK cluster challenge 2023** hosted by Science and Technology Facilities Council (STFC).

EDUCATION

MSc | Artificial Intelligence and Machine Learning 09/2022 – 09/2023
University of Birmingham United Kingdom
Graduated with Distinction
Modules:

- Neural Computation
- Machine Learning and Intelligent Data Analysis
- Natural Language processing
- Computer Vision

Bachelor of Technology | Computer Science Engineering 07/2018 – 05/2022
Amrita School of Engineering Amritapuri, India

- **CGPA:9.33**

A Levels | Central Board of Secondary Education 05/2018
Cochin Refineries School Kochi, India

PROJECTS

Exploring text-conditioning on synthetic medical image generation using diffusion models   06/2023 – 09/2023
MSc Dissertation
- Develop a light model which can generate synthetic medical images using the **diffusion** architecture on a standard GPU.
- The model is **class-conditioned** where the classes were text. An **SRCNN** based super-resolution model was trained for chest X-rays.
- Trained stable diffusion using a dataset with medical images , also fine-tuning different versions of the model to compare it with the proposed model.
- The project will be implemented using one of the latest in technology, **Stable diffusion** models, and combining it with the enormous capabilities of Large language models.

Hybrid feature set based Mitotic detection in breast histopathology images   05/2022
B.Tech dissertation
- Written Dissertation: Hybrid feature set based Mitotic detection in breast histopathology images
- Extraction of hand-crafted features and classification of H&E stained histopathology images
- Compared the classification performance of **Support vector classifier, Random Forest, Decision Tree, Logistic regression, KNN and Naïve Bayes classifiers** on the extracted features
- An efficient and accurate automated approach for the early prognosis of breast cancer which helps pathologists to detect breast cancer at an earlier stage
- Shape and texture features were extracted and **Correlation-based Feature Selection** was used for the optimization
- **Published work in the Proceedings of the Fourth International Conference on Intelligent Computing, Information and Control Systems: ICICCS 2022**, showcasing my dedication to the pursuit of new ideas and concepts in the field of machine learning. **DOI: 10.1109/ICICT54344.2022.9850552**

Covid-19 detection using Chest X-Ray images   09/2021
- An ensemble **3-class classifier model** with a **stochastic hill-climbing optimization algorithm** for detecting infection in chest X-ray images
- The work involves the selection of an optimal feature set from a feature set of handcrafted features and **VGG-16** features using an optimization technique followed by a soft voting-based ensemble classification
- Got an understanding of **Deep convolutional neural networks (DCNN)** and **Computer vision** for Medical diagnosis
- Achieved an overall **F1-score of 0.997** for the proposed model
- **The work was presented at the Big Data, Machine Learning, and Applications: Proceedings of the 2nd International Conference, BigDML, 2021 DOI:10.1007/978-981-99-3481-2_20**

Intelligent CCTV Footage Analysis with Sound Source Separation, Object Detection and Super Resolution   04/2021
- It uses **super-resolution** to enhance image quality.
- Object detection using **YOLO v3**, and sound extraction.
- An **open-source** solution that is cross-platform.
- **The work was published in the Lecture Notes in Networks and Systems, vol 336. Springer. DOI:https://doi.org/10.1007/978-981-16-6723-7_9**

COURSES

Introduction to Machine Learning in Production   04/2024 – 04/2024
DeepLearning AI
MLOps, ML lifecycle and ML product deployment cycle

Data Analysis and Visualization with Power BI   03/2024 – 04/2024
Microsoft
- Data modelling , Data analysis , DAX and Data visualization