SHRUTI MARY MATHEW

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WORK EXPERIENCE

Junior Machine Learning Engineer | Qualitas [*R&D department*] 2022 – Present

- Researched and implemented novel anomaly detection methods to address data hungriness issues and optimize training speed while maintaining high accuracy metrics.
- Developed robust backend codes for product EagleEye, an end-to-end machine learning product.
- Delivered successful projects focused on image classification, object detection, segmentation, and OCR (Optical Character Recognition).
- Reviewed code developed by other developers to ensure adherence to best practices, style guidelines, and code quality.
- Led design reviews with peers and stakeholders to evaluate and select appropriate technologies for project implementation.

Project Trainee | Datamatics Global Services Limited 2021 - 2021

- Created efficient document classification codes for automated document processing.
- Acquired expertise in various image preprocessing methods through hands-on experience.

RESEARCH EXPERIENCE:

Research Work: One Class Classification for anomaly detection 2023

[*Qualitas Technologies Pvt Ltd*]

- Developed and evaluated a novel deep learning-based one-class classification model for anomaly detection.
- Conducted comprehensive experimentation and fine-tuning to optimize model performance and evaluate its robustness.
- Benchmarked the results on various datasets.

Research Work: One Shot Learning 2022

[*Qualitas Technologies Pvt Ltd*]

- Conducted extensive research on one-shot learning techniques for object recognition in computer vision.
- Implemented multiple state-of-the-art techniques such as Siamese neural networks.
- Achieved superior accuracy with the proposed one-shot learning model, outperforming existing techniques by a significant margin.

Master's Thesis: Object Detection in Satellite Images using Deep Learning 2021

[*National Institute of Technology Durgapur*]

- Developed a deep learning-based object detection system to identify ships in satellite images.
- Performed comparative analysis using three state-of-the-art models including YOLOv3, SSD, and FRCNN.
- Achieved the highest accuracy with the YOLOv3 model in terms of mean average precision (MAP) and inference time.
- Implemented image preprocessing techniques to enhance model performance.
- Conducted extensive experimentation and fine-tuning to optimize model performance.

RELEVANT COURSEWORK:

Artificial Intelligence and Soft Computing, Digital Signal Processing, Engineering Mathematics (Statistics, Probability), Digital Image Processing

EDUCATION:

National Institute of Technology Durgapur 2020-2022

Master of Technology in Telecommunication Engineering *CGPA: 9.2/10*

Mahatma Gandhi University 2014-2018

Bachelor of Technology in Electronics and Communication Engineering *CGPA: 8/10*

TECHNICAL SKILLS:

Programming skills: Python, C, Java

Libraries: Numpy, Pandas, OpenCV, Tensorflow, Pytorch, JAX

Tools: Git, AWS, Docker, MLflow, MLOPs, Azure

Software: MATLAB

Algorithms: Machine Learning, Deep Learning

CERTIFICATIONS:

1. Project Management: Getting Started and Beyond/Real World Project Management
2. Deep Learning with PyTorch: Image Segmentation
3. Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization
4. Complete Machine Learning