Wamiq Raza

wamiq.raza94@gmail.com • LinkedIn • Github • Google Scholar

I am a deep learning enthusiast researcher and keen to explore the realm of artificial intelligence. To be able to work and grow professionally as a deep learning engineer in an organization where I could contribute my skills. My endeavor and dedication in the job will be helpful in achieving the company goal and objective.

WORK EXPERIENCE

Kineton 2022- to date
Junior Artificial Intelligence Developer Napoli, Italy

- Developed deep learning models for computer vision applications and followed MLOps protocols.
- Contributed to state-of-the-art research, implementing collision avoidance systems for autonomous boat prototypes.
- Acquired cross-compilation knowledge in Linux and leveraged it for optimized solutions.
- Diving into up-to-date research paper and development of innovative solutions for ongoing project.
- Conducted thorough model evaluation using appropriate metrics and fine-tuned hyperparameters to improve model accuracy and efficiency.
- Actively participated in collaborative projects, working closely with cross-functional teams to integrate deep learning solutions into existing systems and applications.
- Kept abreast of latest advancements in deep learning by staying updated with research papers, workshops, and online courses.

Fondazione Bruno Kessler (FBK) 2021- 2022
Interne Trento, Italy

- Implemented computer vision models using PyTorch for object detection and image classification.
- Performed data pre-processing and augmentation using Python.
- Evaluated model performance using metrics such as accuracy, precision, recall, and F1 score.
- Built a real-time image processing pipeline that utilized deep learning techniques on cloud servers (GPU).
- Optimized and deployed solutions for embedded systems.
- Participated in multi label classification and re-identification project on Market-1501 dataset.
- Presented research to large audiences, demonstrating strong communication skills.
- Trained and compared various Deep Learning models to enhance performance.

CAFU 2019 - 2020
Junior Deep Learning Researcher Dubai, United Arab Emirate

- Researching and implementing state-of-the-art deep learning algorithms and models.
- Developing and optimizing machine learning models for image and video analysis.
- Collaborating with cross-functional teams to integrate computer vision solutions into products and systems.
- Debugging and troubleshooting computer vision systems and algorithms.
- Evaluating the performance of models and algorithms and suggesting improvements.
- Participating in code reviews and design discussions.
- Staying up to date with the latest developments in the field of deep learning.
- Using Tensorboard to evaluate CNN models while being trained.

SKILLS

Technical Skills: Machine Learning, Deep Learning, Python, Computer Vision, MLOps, PyTorch, TensorFlow, OpenCV, TensorFlow, C, C++, C#, Linux, SciPy, NumPy, pandas, Pillow.

Technologies: Anaconda, PyCharm, Jupyter, VS code, Google-Colab

EDUCATION

MSc, Artificial Intelligence — 2020 -2022
University of Trento — Trento, Italy

BSc, Computer Science — 2016–2019
The University of Lahore

PUBLICATION

Raza, Wamiq, Anas Osman, Francesco Ferrini, and Francesco D. Natale 2021. "Energy-Efficient Inference on the Edge Exploiting TinyML Capabilities for UAVs" *Drones* 5, no. 4: 127. https://doi.org/10.3390/drones5040127

PROJECTS

Detection and Recognition (OCR) Driving Number Plate: Train YOLOv 8 with OCR on custom dataset Driving Number Plate to detect the and print the number as text in label section. The model hyperparameter were monetior with TensorFlow board and mlflow.

Detection using YOLO 7 and 8: Deploy YOLO model to detect and count the number of people wearing helmets in an image. The model can be used to detect intrusion or to find people ridding bike without helmet.

Monocular-Depth-Estimation: The task's downscaling block uses a U-Net with additive skip-connections. By using just one RGB image as input, monocular depth estimation attempts to deduce the depth value of each pixel from the 3 available channels. With 23 out of 50 epochs of stopping early, the validation loss was 0.14159.

Multi-Class Classification and Person Re-identification: Deployment of pretrained Resnet50 for Multi class classifier to predict attribute and Person Re-identification on Market-1501 dataset and achieved 93.82% accuracy.

Basketball Player's Detection and Tracking: Create a dictionary of algorithms such as, CSRT, KCF, GOTURN and YOLO-6 to detect & track single player in basketball court, ball possession for half court and detect all players in video.

Multi-Class Image Classification: Build Sequential model with data augmentation in TensorFlow for Multi class Image Classification dataset consist of 33 different fruit classes.

Sentiment Analysis on Movie Reviews: Implemented different approaches such as LSTM, RNN, CNN and FastText network from paper on IMDB dataset in order to check the sentiment review and showed score for positive or negative sentiment. Addition to that the result was compared between these models and computation speed as well.

Sequence Learning with Neural Networks: Gated Recurrent Unit (GRU) model was selected for project utilizing the "Sequence to Sequence Learning with Neural Networks" methodology in PyTorch. This project allowed me to develop advanced language models capable of handling complex sequence tasks with neural networks, showcasing my expertise in NLP and deep learning using PyTorch.

EXTRA-CURRICULAR ACTIVITIES

- Working as Ambassador at Edge Impulse and developing TinyML project and tutorials.
    - **Listed projects are below:**
    - Snoring Detection on a Smart Phone - Expert Projects (edgeimpulse.com)
    - Corrosion Detection with Seeed reTerminal - Expert Projects (edgeimpulse.com)
    - Bean Leaf Classification with Sony Spresense - Expert Projects (edgeimpulse.com)
    - Hand Gesture Recognition using TinyML on OpenMV - Expert Projects (edgeimpulse.com)
- Using Medium as a platform to share thoughts on the cutting edge of AI and deep learning. (Wamiq Raza – Medium)
- Publishing Deep Learning and TinyML project on hackster.io building on Edge Impulse platform.
- Organize workshop on TinyML Development at University of Trento in Nov 2022.

- Member of student mentor program, at University of Trento.

CERTIFICATE

AI For Everyone	**Machine Learning**	**MATLAB Onramp**
Machine Learning in Production	**Machine Learning Operations (MLOps)**	

HOBBIES

Programming	Hiking	Writing
Books reading	Sport	Workout