Raza Ul Azam

Stuttgart, Baden-Wuerttemberg

+49 1522 2002178

razaulazam@outlook.com

linkedin.com/in/raza-ul-azam-ba590799/

WORK EXPERIENCE

January' 20 - Present

Masters Thesis - Machine Learning

Robert Bosch GmbH - Bosch Center for Artificial Intelligence (BCAI)

- Enhancing the performance and robustness of Neural Networks used for supervised Computer vision problems - Image classification and Semantic segmentation
- Implementing Bayesian deep learning methods for getting uncertainty estimates from the Neural Networks about its decisions
- Formulating new mathematical concepts for getting improved uncertainty estimates as compared to the existing methods
- Verifying new concepts by programming a range of diverse experiments and algorithms
- **Tools Used:** Python, PyTorch, TensorFlow, OpenCV, NumPy, Scikit-learn, Scipy, Pandas, Matplotlib, Jupyter Notebook, Linux/Unix shell, Git version control

April' 19 - September' 19

Intern - Machine Learning

Robert Bosch GmbH

- Identified machine learning algorithms for performing the simulations on the detection of anomalous computations in Deep Learning hardware accelerators
- Achieved an accuracy of up to 95% with diverse Neural Network architectures and datasets in the context of Computer Vision
- Implemented unsupervised Time series forecasting methods (using Recurrent Neural Networks) for achieving the desired task while performing Video prediction
- **Tools Used:** Python, Keras, TensorFlow, NumPy, Scikit-learn, Scipy, Matplotlib, Pandas, Jupyter Notebook, Linux/Unix shell, Git version control

August' 18 - January' 19

Working Student - Optimization and Machine Learning

Schaeffler Technologies AG & Co. KG

- Programmed Genetic Algorithms for optimizing the parameters of the models relevant to the automotive industry
- Achieved computationally efficient solution by utilizing GPUs via CUDA C/C++ platform
- Fitted Regression models for performing analytics on big data sets
- **Tools Used:** C/C++, C++/CLI, Python, TensorFlow, Scikit-learn, NumPy, Pandas, Matplotlib, Jupyter Notebook, MATLAB, CUDA, Microsoft Visual Studio

April' 18 - July' 18

Working student - Software Developer

Fraunhofer IIS

- Extended an existing audio rendering library (programmed in C/C++) aimed at enhancing listening experience in 3D Cinemas
- Evaluated the extended work in a test environment and by performing simulations on MATLAB
- **Tools Used:** C/C++, MATLAB, Atlassian tools, Microsoft Visual Studio

EDUCATION

October' 17 - Present

Master of Science in Communications and Multimedia Engineering (CME)

Friedrich Alexander Universitaet Erlangen-Nuremberg (FAU)

Note: 1.8 - German Grading System

Important courses: Machine Learning (Pattern Recognition, Pattern Analysis), Deep Learning, Image and Video Compression

August' 13 - May' 17

Bachelor of Science in Electrical Engineering

Lahore University of Management Sciences (LUMS)

Note: 1.4 - German Grading System

Bachelor Thesis: ***Autonomous Gas Pipeline Inspection using UAV***

- Developed an autonomous UAV (MikroKopter) using Computer Vision algorithms (for camera and laser scanners) and Sensor fusion concepts
- **Tools Used:** Robot Operating Sytem (ROS), C/C++, Linux, MATLAB

SKILLS

- Python
- OpenCV, NumPy, Pandas, Sci-kit learn
- PyTorch, TensorFlow, Keras
- MATLAB, Simulink
- Linux/Unix shell commands, Git version control
- C/C++, CUDA C/C++, R/R Studio
- Machine Learning, Deep Learning
- Computer Vision
- Data Analytics
- Signal Processing
- Spark, SQL
- Amazon Web Services (AWS)
- Atlassian tools