ANKIT

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EDUCATION

Universiteit van Amsterdam
Master of Science, Artificial Intelligence (GPA: 7.8/ 10)
2021 -Present
Coursework: Machine Learning-1, Computer Vision-1, Deep Learning-1, Natural Language Processing-1, FACT in AI

National Institute of Technology, Tiruchirappalli
Bachelor of Technology, Electronics and Communication Engineering (CGPA: 8.94 / 10)
2017 – 2021
Coursework: Pattern Recognition, Digital Image Processing, Digital Speech Processing

TECHNICAL SKILLS

Programming Languages	**:** Python
Deep Learning and Computer Vision Libraries	**:** PyTorch, TensorFlow, Keras, OpenCV
Other Libraries	**:** Pandas, Scikit-Learn
Version Control	**:** Git
Computer Graphics Software	**:** Blender

RESEARCH EXPERIENCE

Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany: (Remote Research Intern)
April 2020 – August 2020

- Worked for 4 months remotely in the Pattern Recognition Lab under Prof. Andreas Maier on Differentiable Trainable Renderer for Generative Adversarial Networks which aims to learn the shaders while optimizing the scene parameters
- Successfully implemented a trainable renderer using Mitsuba 2 and PyTorch
- Differentiable Rendering (mitsuba 2) based Generator is used which optimizes the scene parameters (xml file) from Blender software and a Convolutional Neural Network used as a discriminator
- The input dataset consisted of 180 images of SiO_2 particles
- Certificate

Indian Institute of Technology B.H.U, Varanasi, India
May 2019 – July 2019

- Worked for 9 weeks in the Visual Computing and Analytics Lab under Prof. Sanjay Kumar Singh on Breast Cancer Histopathological Image Classification
- Developed and implemented an algorithm using Machine Learning on a dataset containing 5 different folds each with 4 different magnification levels to classify Benign and Malignant
- Implemented the following research papers: Local centre of mass face for face recognition under varying illumination, Local force pattern (LFP): Descriptor for heterogeneous face recognition, Completed Local Binary Count for Rotation Invariant Texture Classification
- Achieved an average testing accuracy of 97.91%
- Certificate
- Results

VOLUNTEERING EXPERIENCE

International Exchange Global Volunteer at AIESEC in Poland, Local Committee Wroclaw University of Technology
May 2018 – June 2018

- Project**:** Understand
- Sustainable Development Goal (SDG): Reduced Inequalities
- Worked in a 4 member team over 6 weeks in 4 different schools of the Lower Silesian Region, Poland
- Took interactive sessions with over 1000 students aged 16-19 on Income Inequality based on Gender and Racism
- Certificate

Deputy Manager, Festember Social Responsibility
March 2018 – Nov. 2019

- Successfully set up library in a small government school in Coimbatore using donated books as a part of the initiative called PAGES
- Organized events and activities for blind women in Rehabilitation Center, Tiruchirappalli

RELEVANT PROJECTS

Graph Neural Network comparison to MLP
Dec 2021
- *I*mplemented a GNN and a MLP to predict the atomisation energy of the molecules at 0K
- Information of only the atomic elements and the bond type were used during training
- The models were trained on a collection of molecular data called QM9
- Observed permutation invariance in GNNs as compared to MLP
- The project was a part of the Deep Learning-1 course Assignments

Performance Comparison on Various Architectures
Nov 2021
- Compared the performance of the following Deep Learning architectures: ResNet-18, ResNet-34, VGG-11, VGG-11 with batch normalization and DenseNet-121
- The models were trained on the CIFAR-10 dataset
- The project was a part of the Deep Learning-1 course Assignments

Text Generation Model using LSTM
Nov 2021
- Implemented a one-layer LSTM network from scratch to predict the next character in a sentence by training on sentences from a book
- Understood the effect of temperature parameter change on the sampling process
- The project was a part of the Deep Learning-1 course Assignments

Deep Convolutional Generative Adversarial Network
May 2020
- A DCGAN trained to generate fake images of birds
- The model was trained on Caltech UCSD Birds 200 dataset (1200 images used, resized to 64 X 64)
- Data preprocessed using Squash transform and general torchvision transforms

ONLINE CERTIFIED COURSES

Deep Learning Specialization:
- Neural Network and Deep Learning
- Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization
- Structuring Machine Learning Projects
- Convolutional Neural Networks

DeepLearning.ai TensorFlow Developer Professional Certificate:
- Introduction to TensorFlow for Artificial Intelligence, Machine Learning and Deep Learning Convolutional Neural Networks
- Convolutional Neural Network in TensorFlow

Fundamentals of Digital Image and Video Processing by Northwestern University

LEADERSHIP EXPERIENCE

President, Office of International Relations, NIT Tiruchirappalli
September 2020 – May 2021
- Lead a team of 29 members with 4 sub teams under the ambit of the administration body of the Institute
- Conducted webinars on International Research Internships and higher education through alumni network
- Worked on Campus Internalisation
- Worked on developing a portal where students can directly apply for on semester research project

Team Leader oGE (Outgoing Global Entrepreneur), AIESEC in NIT Trichy
August 2019 – Nov. 2019
- Conducting team meeting, guiding members about the attraction strategies
- Tracking the success rate of each member