ANUPAM TRIPATHI

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EDUCATION

Northwestern University | Evanston, Illinois Sept 2019 - Dec 2020
Master of Science in Artificial Intelligence, CGPA: 3.87/4
Coursework: Advanced Computer Vision, Geospatial Vision and Visualization, Deep Learning Foundations, Data Science, Statistical Pattern Recognition, Statistical Language Modeling, Frameworks of AI, Machine Learning, Algorithms.

University of Mumbai | Mumbai, India Aug 2015 - June 2019
Bachelor of Technology in Computer Engineering, CGPA: 3.6/4
Coursework: Neural Networks, Data Analytics and Machine Learning, Data Mining, Advanced Databases, Image Processing.

EXPERIENCE

Northwestern University | Graduate Research Assistant Feb 2020 - Present | Evanston, Illinois
- Developing an econometric model using machine learning techniques to find the causal impact of Eco labels on demand steering.

Home Drone | Artificial Intelligence Intern Sept 2018 - Jan 2019 | Mumbai, India
- Worked on making drones smarter and fully automated for applications such as outdoor projectors and intra office delivery.
- Developed object detection and path detection algorithms to program them for navigating in known indoor environments.

University of Mumbai | Machine Learning Intern Dec 2017 - Jan 2018 | Mumbai, India
- Designed a human emotion detector using Machine Learning techniques with a best performing accuracy of 96.39%.
- Used Haar Cascades, CNN and Transfer Learning for Facial Expression Detection and RNN for Voice Detection.

kWatt Solutions, IIT Bombay | Web Development Intern Nov 2017 - Jan 2018 | Mumbai, India
- Re-designed the website by adding several functionalities like webinars, live chat bots and improving the security mechanisms.
- Was able to increase the online user traffic rate by 18% and reduced the bounce rate by 5%

SKILLS

Languages	Python, Java, MATLAB, C, C++
Libraries	PyTorch, Tensorflow, Keras, Tflearn, PyTorch3D, NLTK, Numpy, OpenCV, Pandas, Pygame, Sklearn
Databases	MySQL, Oracle11g, Postgresql, Firebase
Tools	Tableau, Trifacta, D3.js, Databricks, AWS, Azure

PROJECTS

Novel View Synthesis April 2020
- Using Multi-Plane Image representation (MPI) with the aim to improve the computational time for creating novel views.
- Generating 'n' disparity maps for 'n' views and a fully differentiable renderer for point-clouds using 3D-CNNs.

3D Human Body Measurement April 2020
- Measuring the clothing size of a person, given the pictures of him/her from various angles.
- Deforming the initialized mesh using Graph CNNs, to match it's projection to the input images for all the given views.

COVID-19 Spread Prediction using Graph Neural Networks Feb 2020
- Analyzed the COVID-19 data on a real time basis to predict the cases of the following day.
- Used census data and travel data as links and states as nodes to implement Graph Neural Networks.

Image Inpainting Jan 2020
- Utilized k-nearest pixels to predict missing pixels using LSTMs, making it independent of the shape and size of the missing part.
- Implemented Poisson blending to preserve intensities between the predicted region and the background of the original image.

Text to SQL Jan 2020
- Implemented a recursive, attention based Encoder-Decoder approach, for converting text in natural language and corresponding database schema information to structured SQL queries.
- Employed two encoders for text and schema, and eight decoders for each of the class of SQL query word to be predicted.

Data Analytics on the Chicago Police Dataset Sept 2019
- Analyzed the Chicago Police Dataset using SQL, Machine Learning algorithms and NLP to observe patterns in misconducts before and after this data went public.
- Presented findings based on visualizations in Tableau and D3.js.

Audio Assistance for Blind July 2018
- Developed an application that provides walking assistance to the visually impaired in from of audio instructions.
- Implemented YOLOv3 for Object Detection and Monocular Vision for Depth Estimation.
- Used a deep learning approach to generate the second image of the pair of images needed to estimate depth using binocular vision.

Other Projects Face Recognition using One Shot Learning, NLP tasks like fakes detection and question answering on Wikipedia movie data corpus, Facial Expression Detection, Game of Snakes using Deep Reinforcement Learning, Poetry Generator, Sentiment analysis from voice

ACTIVITIES

Winner - Hackathon organized by AWS at Northwestern university Sept 2019