PARTH SHAH

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SUMMARY

I am a graduate student at University at Buffalo, looking at a Machine Learning major along with supplementary courses in Algorithms and Data Science. My ongoing projects include learning the interchangeability between problems solved by Genetic Algorithm and those by Reinforcement Learning. I am currently taking a Deep Learning course along with an Independent study for Computational Social Science. My previous courses are Algorithm Analysis, Intro to Machine Learning, Computer Security, Information Retrieval, Advanced Machine Learning, Distributed Systems and Sequential and Parallel Algorithms.

EDUCATION

University at Buffalo, The State University of New York · Sept. 2018 to Current
Masters of Science Computer Science Engineering 2019
Courses - Deep Learning

Vidyalankar Institute of Technology, Mumbai University · June 2014 to Mar. 2018
Bachelor of Engineering Computer Engineering 2018
GPA - 8.0/10.0
First Class with honors

SKILLS

Python, Java, C/C++, R, Android, Algorithms, JavaScript, Processing, p5.js, Octave, HTML, CSS, Unity3D, Vuforia, Firebase, WordPress, Tensorflow, Keras, SOLR, PyTorch

RELEVANT EXPERIENCE

Intern – Technical Team Mar. 2018 to July 2018
Cloud Counselage Pvt. Ltd, · Mumbai, India

- Assisted in Cloud consulting and counseling for various SaaS Cloud products such as Edpedia – The Learning Management System, Job Cloud – The Online Job Board, Directory Cloud – The Online Business Directory Services & B2B Market Place.
- Set up the skeleton for the android application for the company and its required Git Functionalities. Maintaining company website with WordPress and GCP. Assisted in server migration and management of the Virtual Machine using GCP.

Intern – Android App Development Sept. 2017 to Feb. 2018
FP Design - Part of Frischmann Prabhu India Pvt Ltd · Mumbai, India
Project: Augmented Reality Based Virtual Furniture

- Designed an Augmented Reality (AR) based application which can be used to visualize life-size furniture in your room using your phone camera.
- Incorporating a feature which allows customers to customize furniture according to color and texture of their choice using Barcodes from the catalogue.
- Used Unity and Vuforia for setting the AR target on the marker and Blender to create the 3D models of furniture.

RELEVANT PROJECTS

Sequence to Sequence Machine Translation and Gender Bias Analysis Feb. 2019 to June 2019

- Designed a multilayer bi-directional LSTM Recurrent Neural Network Model divided in three parts Encoder, Attention and Decoder and used it for translation from German to English using seq2seq and then analysis on the basis of gender bias.
- Trained and tested the model on the data from the Europarl v7, Common Crawl, and News Commentary v11 corpora from WMT '16. Produced a BLEU Score of 27.6 for 2 layer and 28.7 for 4 layer models comparable to the original paper.
- Took a sample of 100000 sentences with BLEU score over 0.9 for Gender Bias analysis found that 30% of sentences have an error with respect to gender.

Forensic pattern recognition using Explainable AI Feb. 2019 to Feb. 2019

- Annotated a dataset of handmade features for a total of 13570 'AND' images consisting of 15 features.
- Generated multiple PGM's from intuitive feature selection and hill-climbing made into Bayesian Models and Markov Models using pgmpy in python.
- Created a Siamese Neural Network to learn a representation of features from the 'and' images used to predict pairs using patterns learnt from them. Achieved an accuracy of 74%
- Built an AutoEncoder to learn the same pattern as in the Siamese Network so as to compare the accuracies using the same 'AND' image pairs. Achieved an accuracy of 91%.
- Built a Multitask Learning (MTL) model to learn the mapping between “AND” images and handcrafted features, using the AutoEncoder latent features and 15 Neural Networks customized to each different feature of the image.

Image-to-Image Translation with Conditional Adversarial Networks Apr. 2019 to Apr. 2019

- Implemented CycleGAN Model to show emoji style transfer between Apple<->Windows emoji style.
- Designed a 3 layer model with a Deep Convolution GAN, trained using the cyclic consistency loss with a CycleGAN discriminator.
- Trained and Tested with 2000 emojis of both styles using multiple settings obtaining significantly improved results over other standard Generative Models

Amazon Dynamo-style key-value storage Mar. 2019 to Mar. 2019

- Implemented a simpler version of Amazon Dynamo in an android group messenger application for up to 5 nodes with an easily scalable architecture.
- Reproduced three features of Dynamo viz:- 1) Partitioning, 2) Replication, and 3) Failure handling.
- Assured both availability and linearizability at the same time with a 99% success rate over-vigorous testing under multiple failures and requests at a time.

!404 - An Information Retrieval System Oct. 2018 to Nov. 2018

- Created a Full-Fledged Information Retrieval System as a part of a final project for the subject Information Retrieval. (https://youtu.be/u1SpF9V1lBY)
- Worked in a group of 4. Responsible for the UI development, World map representation, word cloud generation and overall supervision.

AWARDS AND CERTIFICATIONS

Google partnered with Udacity · Recipient of Google India Challenge Scholarship: Android Developer
Feb. 2018
Google India's association with Udacity, for offering scholarships for aspiring Android developers. 1,000 Challenge Scholarships were given out on selection basis pertaining to the student's performance in the coding round. The Challenge scholarship lasted 90 days starting from February 15th.

Coursera · Machine Learning by Andrew NG
Nov. 2018
Coursera Course on Machine Learning by Andrew NG