ANIKET DIDOLKAR

Bangalore, India
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EDUCATION

Manipal Institute of Technology, Manipal *August 2016 - June 2020 (Exp)*
Bachelor in Technology
Department of Computer Science and Engineering. CGPA: 9.22/10.0

IMPORTANT LINKS

Website **GitHub** **Google Scholar**

PUBLICATIONS

Beyond Hostile Linguistic Cues: The Gravity of Online Milieu for Hate Speech Detection in Arabic [pdf]

- *Proceedings of the 30th ACM Conference on Hypertext and Social Media*
- Authors - **Aniket Didolkar**, Arijit Ghosh Chowdhury, Ramit Sawhney, Rajiv Ratn Shah.
- Won a scholarship to travel to Hof, Germany to present my paper.

ARHNet-Leveraging Community Interaction for Detection of Religious Hate Speech in Arabic [pdf]

- *Proceedings of the 57th Conference of the Association for Computational Linguistics: Student Research Workshop.*
- Authors - **Aniket Didolkar**, Arijit Ghosh Chowdhury, Ramit Sawhney, Rajiv Ratn Shah.

[Re] h-detach: Modifying the LSTM Gradient Towards Better Optimization [pdf] [code]

- *ReScience C 5, 2, 1.*
- Author - **Aniket Didolkar**.
- This paper was one of the 4(out of 24) papers accepted as part of the **ICLR reproducibility challenge 2019**.
- Reproduced the paper - H-detach: Modifying the LSTM Gradient Towards Better Optimization.
- Also implemented the CUDA version of the algorithm and integrated it into the PyTorch ecosystem in my local computer. This resulted in a 2x speed-up.

WORK EXPERIENCE

Indian Institute of Science, Bangalore Jan 2020 - Present
Research Intern

- Working under the guidance of Professor Aditya Gopalan on using Machine Learning for air quality prediction.

Google Summer of Code [Report] [Evaluation Comments] May 2019 - August 2019
Student Developer

- Worked on building Recurrent Neural Network support for ChainerX.
- Implemented the forward and backward passes of the following models - **UNI/BI-LSTM, UNI/BI-GRU, UNI/BI-Vanilla RNN, S-LSTM, Tree-LSTM** in C++.
- Implemented both the CPU and GPU versions of the models. Learnt to use the **CUDNN** framework provided by NVIDIA to implement the GPU versions of the above models.

MIDAS Lab, IIIT Delhi April 2019 - Present
Research Intern

- Working with Professor Rajiv Ratn Shah of IIIT Delhi on research problems in the domain of deep learning and natural language processing.
- Worked on detecting hate speech in Arabic using the liguistic cues combined with the social interaction between the users. This project has led to accepted papers at **ACL-SRW 2019** and **ACM-HyperText 2019**.
- Currently working on the project of using **Mixup** as a data-augmentation technique for NLP to improve the performance of Bert on sequence classification tasks.

Ubisoft May 2019 - July 2019
Automation Intern

- Worked on detecting **collision bugs**(When the car stops even when there is no visible obstacle in the path.) and **pass-through bugs**(When the car passes through a visible obstacle such as wall, tree, fence etc.) in the crew 2 game.
- Used a combination of depth estimation and semantic segmentation using deep learning techniques to solve the problem.
- My solution had an accuracy of about 85% and it eliminated the need for manual detection of bugs.

Project Manas(Robotics team at Manipal University) Feb 2018 - Feb 2019
AI Researcher

- Understood and implemented reinforcement learning algorithms - **DQN, policy gradients, and A3C** on the environments provided by OpenAI gym such as the gym-minigrid environment.
- Mentored 3 juniors for the task of designing a learning algorithm for the udacity self-driving car simulator.

Rammer.ai June 2018 - July 2018
Data Science Intern

- Worked on the task of detecting **action-items** in meeting transcripts and natural language inference on the SNLI Dataset.
- Learnt how to work with text data using libraries such as spacy, NLTK. Implemented an number of deep learning models for extracting features frot text data which includes LSTM, GRU, transformers etc.

PROJECTS

Implementation of the paper - Recurrent Independent Mechanisms [code]
Implemented the model presented in the paper - Recurrent Independent Mechanisms(RIMs). Reproduced the results for the MNIST task in the paper and extended the framework to report results on the gym-minigrid environment using **proximal policy optimization**.
Was able to demonstrate that RIMs generalize better to different environments by showing their improvements over LSTMs.

BERT Baselines for COQA [code]
Implemented BERT and its variants for the reading comprehension task of the COQA dataset.

Parallel implementation of T-SNE [code]
Implemented a parallel version of the T-SNE algorithm using CUDA.

Pruning Neural Networks [code]
Performed weight pruning and unit pruning on a simple fully-connected neural network. Showed that up to **90%** of the weights can be pruned without a considerable drop in accuracy. Also utilized the sparsity to speed up inference by upto **30%**.

DeepJava [code]
Deep learning operations developed from scratch in Java. It build a computation graph an correctly handles backpropagation for the defined elements (conv layer, fc layer, sigmoid layer etc.).

TECHNICAL STRENGTHS

Libraries and Frameworks	PyTorch, Tensorflow, Chainer, Numpy, CUDA, CUDNN
Software	Linux , Windows, Latex