Anup Anand Deshmukh

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EDUCATION

International Institute of Information Technology, Bangalore. *May 2019*

Degree	Integrated Masters in Information Technology
CGPA	Overall: 3.30/4, CS Major: 3.57/4 (At the end of ninth semester)
Coursework	Reinforcement Learning, Advanced Machine Perception, Machine Learning, Automata Theory and Computability, Big Data Algorithms, Advanced Cryptography, Linear Algebra, Signal Processing, Data Structures and Algorithms
Teaching Assistant	CS 302 Theory of Automata and Computations (Fall 2018) SP 825 Visual Recognition (Spring 2019)

INTERESTS

Machine learning for Computer Vision and Recommender Systems

PUBLICATIONS

Anup Deshmukh, Pratheeksha Nair, Shrisha Rao, **"A Scalable Clustering Algorithm for Serendipity in Recommender Systems,"** *Accepted in the ICDM 2018 workshop - SAREC*

- Effectuated serendipity in movie recommender systems with an algorithm, Serendipitous Clustering for Collaborative Filtering (SC-CF) that also efficiently tackles the problem of high sparsity.

Rameshwar Pratap, **Anup Deshmukh**, Pratheeksha Nair, Tarun Dutt, **"Fast and Provable Concept Decompositions in Large Text Corpus,"** *Accepted in the ACML 2018 conference*

- Proposed an algorithm by considering the spherical clustering problem for large sparse document collections. Proved that, with our approach the computational complexity in SPKM++ can be decreased while retaining the $\mathcal{O}(\log k)$ approximation guarantee to the optimal clustering result.

RESEARCH EXPERIENCE

A Minimax Game for User Satisfaction in Recommender Systems *Ongoing*

Multimodal perception lab at IIIT-B *Guide: Prof. Dinesh Babu*

- Formalizing the Minimax game, which can potentially model generator in Generative Adversarial Network - GAN, to give unexpected yet relevant recommendations.

Scaling up Simhash *Jan 2018-Aug 2018*

Under review in top AI conference *Guide: Dr. R. Pratap*

- Proposed a dimensionality reduction sketching algorithm - simsketch - which maintains an estimate of the cosine similarity between original real valued vectors.

WORK EXPERIENCE

Perception of Emotions from Audio Signals *Ongoing*

Intern at FAST lab-CentraleSupelec, Rennes-France *Guide: Prof. Renaud Seguier*

- Analyzed different set of acoustic features which are designed to detect the perceptual content of audio with Convolutional Neural Network (CNN) in focus. Proposed Emo-CNN achieved 90.20% of categorical accuracy. Working on modelling human stress in the learnt 3-D emotion space.

Spatio-Temporal Features of Crowd Models *May 2017-July 2017*

Intern at Murdoch University, Perth-Australia *Guide: Prof. Ferdous Sohel*

- Worked on a problem of crowd counting which used conditional GAN by extending it to crowd datasets like SHOCK and WIDER FACE.

Slicepay, Bangalore - India *May 2016-July 2016*

Full Stack Developer

- Built the browser extension using JavaScript which gave access to the Slicepay's payment plans right from user's merchant website. Link: Slicepay's chrome extension

COURSE PROJECTS

Merge LSTM model for Image Description Generation *August 2017-April 2018*

Course: Research Elective *Guide: Prof. Dinesh Babu*

- Built the deep model using Keras on the construction which uses both LSTM's for language modelling and CNN's for generating image representation. Achieved BLEU score of 0.51.

Automated Essay Scoring with Cross Feature Vector Generation *August 2017-Dec 2017*

Course: Machine Learning I *Guide: Prof. G Srinivasa R.*

- Designed and implemented the Intelligent Text Rater (ITR) with the proposed novel approach of feature vector generation of text essays. ITR achieved MSE as low as 0.73 for essay ratings.

SKILLS

Languages	Python, C++, JScript
Tools	Keras, TensorFlow, Matlab, Latex

ACHIEVEMENTS & LEADERSHIP

2018 **Academic Support**, at Make A Difference teaching basic sciences to underprivileged students.
2017 **Curator**, TEDx IIIT-B; **Co-Founder**, IIIT-B 'Comic Club'
2016 Winner of the Hackathon held in IIIT-B as part of the Signal Processing course.
2014 **Social Media Team**, Microsoft TechEd 2014
2014 Top 1% in Maharashtra State's Higher Secondary School Certificate (HSC) exam.