

Anup Anand Deshmukh

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EDUCATION	International Institute of Information Technology, Bangalore. <i>Degree</i> Integrated Masters in Information Technology <i>CGPA</i> 3.24/4 (At the end of eighth semester) <i>Coursework</i> Reinforcement Learning, Advanced Machine Perception, Machine Learning, Automata Theory and Computability, Big Data Algorithms, Advanced Cryptography, Linear Algebra, Signal Processing, Data Structures - Algorithms <i>Teaching Assistant</i> CS 302 Theory of Automata and Computations (Fall 2018) May 2019
INTERESTS	Deep learning for Computer Vision and Recommender Systems
PUBLICATIONS	Anup Deshmukh , Pratheeksha Nair, Shrisha Rao, “ A Scalable Clustering Algorithm for Serendipity in Recommender Systems ,” <i>Accepted in the ICDM 2018 workshop - SAREC</i> <ul style="list-style-type: none">Effectuated serendipity in movie recommender systems with an end-to-end algorithm, Serendipitous Clustering for Collaborative Filtering (SC-CF) that efficiently tackles the problem of high sparsity and overspecialization. Rameshwar Pratap , Anup Deshmukh , Pratheeksha Nair, Tarun Dutt, “ Fast and Provable Concept Decompositions in Large Text Corpus ,” <i>Accepted in the ACML 2018 conference</i> <ul style="list-style-type: none">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 <i>Multimodal perception lab at IITB</i> Guide: Prof. Dinesh Babu <ul style="list-style-type: none">Formalizing the Minimax game, which can potentially model generator in Generative Adversarial Network - GAN, to give unexpected yet relevant recommendations. Scaling up Simhash <i>Under review as a conference paper at AAAI 2019</i> Guide: Dr. R. Pratap <ul style="list-style-type: none">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 <i>Intern at FAST lab-CentraleSupélec, Rennes-France</i> Guide: Prof. Renaud Segquier <ul style="list-style-type: none">Analyzed different set of acoustic features which are designed to detect the perceptual content of audio with Convolutional Neural Network (CNN) in focus. Proposed i-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 <i>Intern at Murdoch University, Perth-Australia</i> Guide: Prof. Ferdous Sohel <ul style="list-style-type: none">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 <i>Full Stack Developer</i> May 2016-July 2016 <ul style="list-style-type: none">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 <i>Course: Research Elective</i> August 2017-April 2018 Guide: Prof. Dinesh Babu <ul style="list-style-type: none">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 <i>Course: Machine Learning I</i> August 2017-Dec 2017 Guide: Prof. G Srinivasa R. <ul style="list-style-type: none">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	<i>Languages</i> Python, Keras, TensorFlow, C++, JScript <i>Tools</i> Matlab, Latex
ACHIEVEMENTS & LEADERSHIP	2018 Academic Support , at Make A Difference teaching basic sciences to underprivileged students. 2017 Curator , TEDx IITB; Co-Founder , IITB 'Comic Club' 2016 Winner of the Hackathon held in IIT-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. 2012 Secured All India Rank 940 in International English Olympiad.