IIIT Delhi
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Vishaal Udandarao

Education

2016–2020 **IIIT Delhi, India**.
Computer Science and Engineering, Bachelor of Technology
GPA – 9.17/10

2016 **ISWK, Muscat, Oman**.
Class XII, AISSCE CBSE
Percentage – 98.0%

2014 **ISWK, Muscat, Oman**.
Class X, AISSE CBSE
GPA – 10/10

Publications

- ***V. Udandarao****, A. Agarwal*, N. Sachdeva*, R. K. Yadav*, V. Mittal*, A. Gupta, A. Mathur, "EDUQA: Educational Domain Question Answering System Using Conceptual Network Mapping", ICASSP 2019[paper][poster]
- ***V. Udandarao****, S.R. Vyalla*, T. Chakraborty "Memeify: A Large-Scale Meme Generation System", CODS-COMAD 2020[paper][code][slides]
- ***V. Udandarao****, S. Bhagat*, S. Uppal*, "DisCont: Self-Supervised Visual Attribute Disentanglement using Context Vectors", ICML (MLI4SD workshop) 2020, ECCV (PTSGM workshop) 2020[paper][code][slides]
- ***V. Udandarao****, M. Agrawal*, R. Kumar, R.R. Shah, "On the Inference of Soft Biometrics from Typing Patterns Collected in a Multi-device Environment", IEEE BigMM 2020[paper][code]

Pre-prints

- ***V. Udandarao****, A. Agarwal*, A. Gupta, T. Chakraborty, "InPHYNet: Leveraging Attention-based Multitask Recurrent Networks for Multi-label Physics Text Classification", Under Review at Elsevier Knowledge Based Systems[code]
- ***V. Udandarao****, A. Maiti*, D. Srivatsav*, S.R. Vyalla*, Y. Yin, R.R. Shah, "COBRA: Contrastive Bi-Modal Representation Algorithm", Under Review[pre-print][code]
- ***V. Udandarao****, S. Nath*, J. Shukla, "It's LeVAsa not LevioSA! Latent Encodings for Valence-Arousal Structure Alignment", Under Review at ACM CODS-COMAD[pre-print][code]

Research Experience

Mar'20 – present **MIDAS Lab, IIIT Delhi**.
Advisors: Dr Rajiv Ratn Shah, Dr Rajesh Kumar

- Research area involves discovery of privacy leaks from behavioural biometric data.
- Goal is to understand the extent of privacy leakage factors that can be exposed based on per-user typing/swipe/gait features using machine/deep learning

Jul'19 – present **Infosys Center for Artificial Intelligence (CAI) Lab, IIIT Delhi**.
Advisor: Dr Saket Anand

- Research area involves the unsupervised learning of disentangled representations
- Goal is to learn well disentangled, statistically independent latent factors of variation helping to reduce sample complexity of downstream tasks and generate high fidelity reconstructions

Aug'18 – present **Signal Processing and Biomedical Imaging (SBI) Lab, IIIT Delhi**.
Advisors: Dr Anubha Gupta, Dr Tanmoy Chakraborty

- Research area involves the creation of self-learning chatbots for assisting teachers in understanding pedagogical content in a constructive and efficient manner.
- Proposed an educational-domain QA system using concept-network mapping
- Proposed a multi-task multi-label deep learning model for efficient classification of educational-domain corpora.

Internships

May'19 – Jul'19 **Expedia Group**.
Software Development Intern

- Created and deployed a scalable image ranking solution for images of destination locations
- Conducted extensive statistical tests on a dataset of 10k+ images
- Leveraged deep learning models for scene classification, object detection and aesthetic scoring
- Deployed the model solution on AWS Lambda with an S3 bucket trigger
- Received a pre-placement offer for work done during the internship

Selected Course Projects

Sep'19 – Nov'19 **Model-based RL Approaches: A Comparison**.
Course: Reinforcement Learning
Conducted a comparative analysis on the World Models RL method. Analysed performance tradeoffs on using VAE/AE for vision model and CMA-ES/PEPG for controller optimisation.[slides][code]

Sep'19 – Nov'19 **GREat Expectations**.
Course: Data Science
Modelled graduate school admission procedures for Indian students using predictive modelling. Retrieved large scale datasets of previous graduate school applicants, performed EDA and drew meaningful insights for future applicants.[report][slides][code]

Mar'19 – May'19 **Sentiment Analysis using Transformers, Chain-Thaw Transfer Learning & Multi-Task Learning**.
Course: Deep Learning
Performed transfer learning on the task of sentiment analysis using two datasets - Imdb and Insults in social commentary. Major approaches followed included pure self-attention based models (transformers), iterative chain-thaw fine-tuning and multi-task learning with recurrent networks.[slides][code]

Honors & Awards

- IIIT-Delhi Dean's Award for Academic Excellence 2016-17, 2018-19
- Recipient of the Student Travel Grant from CODS-COMAD 2020 (supported by Elsevier Journal on Artificial Intelligence)
- Recognised as one of the Top 10 Best Student Mentors 2018-19
- Secured All India Rank of 2130 in JEE-MAINS 2016 out of 1.5 million candidates
- Awarded the ISWK Student Achiever Award 2015-16

Teaching

- TA, Deep Learning, Prof. Saket Anand, Spring'20
- TA, Machine Learning, Prof. Jainendra Shukla, Fall'19
- TA, Introduction to Engineering Design, Prof. Aman Parnami, Spring'19
- TA, Linear Algebra, Prof. Samaresh Chaterjee, Fall'18

Co-Curriculars

- Deputy Convenor, Placement Committee, IIIT Delhi
- Organising Team, Odyssey'18 (Cultural Fest, IIIT Delhi)
- Organising Team, Esya'17 (Technical Fest, IIIT Delhi)