SHAGUN UPPAL

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in shagunuppal   ⌂ shagunuppal

▶ Education

IIIT Delhi, Batch of 2020
B.Tech, Computer Science and
Engineering
CGPA - 9.22 / 10.00
In top 10% of the Institute

▶ Summary

- **Interests:** Machine Learning, Deep Learning, Computer Vision, NLP
- **Skills:** Python, C, C++, Matlab, Java, PyTorch, Linux, ARM Assembly
- **Selected Coursework:** Linear Algebra, Probability and Statistics, ODEs and PDEs, Machine Learning, Deep Learning, Reinforcement Learning, Multi-agent Systems, Image Analysis, Calculus in R^n, Convex Optimization

▶ Work Experience

Research Intern, BRAIN Lab | Singapore University of Technology and Design (SUTD)   May 19 - Aug. 19
Project Title : Disentangled Representations using Gaussian Processes for Video Prediction
Advisor: Dr. Nengli Lim
- Worked on the unsupervised learning of video sequences to obtain disentangled representations.
- This work is done in collaboration with A*STAR.

Undergraduate Researcher, Infosys Center of Artificial Intelligence | IIIT-Delhi   Jan. 18 - Present
B.Tech Thesis Title : Geometry of Neural Networks based Disentangled Latent Space Models
Advisor: Dr. Saket Anand and Dr. Pavan Turaga
- Explored the Riemannian Geometry of latent spaces of disentangled representations of Deep Generative Models.
- This work is done in collaboration with Arizona State University, USA.

Undergraduate Reseacher, Multimodal Digital Media Analysis (MIDAS) Lab | IIIT-Delhi   Dec. 18 - Present
Project : Textual Entailment for Natural Language Inference in low-resource languages
Advisor: Dr. Rajiv Ratn Shah and Dr. Debanjan Mahata
- Developed a novel closed loop approach for Natural Language Inference.
- This work is done in collaboration with University of Utah and Bloomberg (USA).

▶ Publications

Disentangling Representations using Gaussian Processes in Variational Autoencoders for Video Prediction (In Review)
Shagun Uppal*, Sarthak Bhagat*, Vivian Yin, Nengli Lim [Paper]

Learning based Methods for Code Runtime Complexity Prediction   *ECIR 2020*
Jagriti Sikka, Kushal Satya, Yaman Kumar, **Shagun Uppal**, Rajiv Ratn Shah, Roger Zimmermann [Paper][Poster]
(*Acceptance Rate: ~25%*)

Product of Orthogonal Spheres Parameterization for Disentangled Representation Learning   *BMVC 2019*
Ankita Shukla, **Shagun Uppal**, Sarthak Bhagat, Saket Anand, Pavan Turaga [Paper] [Poster]
(*Acceptance Rate: ~28%*)

Geometry of Disentangled Representations of Deep Generative Models   *ICVGIP 2018*
Ankita Shukla, **Shagun Uppal***, Sarthak Bhagat*, Saket Anand, Pavan Turaga [Paper][Poster]
(*Acceptance Rate: ~29%*)

▶ Projects

Learning to Paint using Model-based DDPG and TD3 Algorithm   Aug. 19 - Nov. 19
Course Project: Reinforcement Learning; **Instructor:** Dr. Sanjit Kaul
Teaching an agent to replicate an image by decomposing it to a set of strokes that can be painted on a canvas. [Presentation][Code]

SAMS - Self-Attentive Modified StackGANs: Jan. 19 - May 19
Course Project: Deep Learning ; **Instructor:** Dr. Saket Anand
Incorporate self-attention in StackGANs for generating high-fidelity images from textual descriptions. [Presentation][Poster]

Sat2Map   Aug. 18 - Dec. 18
Course Project: Machine Learning; **Instructor:** Dr. Saket Anand
Learning mappings for generating city maps from corresponding satellite images using various models like CNNs, GANs. [Presentation]

All-In   Aug. 18 - Dec. 18
Course Project: Image Analysis; **Instructor:** Dr. A. V. Subramaniam
Detection of the suit and rank of cards on a poker table and predicting player ranks. [Presentation]

▸ Awards and Achievements

Dean's R&D Award   2018-2019
Awarded for exceptional research contributions in the academic year 2018-2019

Dean's List Award for Academics   2018-2019
Awarded for excellence in academics in the academic year 2018-2019

Google I/O CodeJam   2018-2019
Global Rank | 52 [2019]
Global Rank | 221 [2018]

Awarded IIIT-Delhi's prestigious Chairman's Merit Scholarship   2016
Among the 4 students to receive it out of 278 students.

Awarded Principal's Commendation Medal for scoring 97.25% in CBSE (School Topper)   2016

International Mathematics Olympiad (Science Olympiad Foundation)   2012 - 2013
- [Class Xth] 2nd level Rank: 241 | Awarded Gold Medal (School Topper).
- [Class IXth] 2nd level Rank: 414 | Awarded Gold Medal (School Topper).

All India Rank 4, NASA Astronomy Olympiad   2013
Among 6000+ shortlisted candidates.

▸ Teaching Experience

Deep Learning (CSE 641)   Jan. 20 - May 20
Teaching Assistant for a class of 120 undergraduate and postgraduate students.

Machine Learning (CSE 543)   Aug. 19 - Dec. 19
Teaching Assistant for a class of 150 postgraduate students.

▸ Social Impact / Leadership

Winter School for AI | IIIT-Delhi   Jan. 19
Conducted labs and tutorial sessions for the Deep Learning Module. [Tutorial]

Volunteer, Sarthak Prayas | NGO   May 17 - Jan. 18
- Revamped the website for the NGO, designed posters for social campaigns, volunteered for blood donation camps and remedial education centers,
- Volunteered for blood donation camps and remedial education centers.

Member, ACM Student Chapter | IIIT-Delhi   Mar. 19 - Present
Conducting sessions for mentoring and networking student community with professionals, supported by ACM.

Member, WiT | Women in Tech Club, IIIT-Delhi   Nov. 17 - Present

Organizer, Esya | Technical Fest, IIIT-Delhi   Aug. 17 - Aug. 18
- Design360, Design Hackathon (200+ Participants)
- Chakravyuha, Online Cryptic Hunt (250+ Participants)

▸ References

Dr. Nengli Lim
Assistant Professor, Singapore University of Technology and Design (SUTD)

Dr. Saket Anand
Assistant Professor, Indraprastha Institute of Information Technology (IIIT-Delhi)

Dr. Rajiv Ratn Shah
Assistant Professor, Indraprastha Institute of Information Technology (IIIT-Delhi)
Director, MIDAS (IIIT-Delhi)