Shagun Uppal

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Education

- **Indraprastha Institute of Information Technology (IIIT), Delhi** — Delhi, India
  B.Tech (with Honors), Computer Science and Engineering; CGPA: 9.27/10.00 — *Aug 2016 - May 2020*

Research Interests

- Computer Vision
- Self-supervised Learning
- Robot Learning
- Representation Learning

Research Experience

- **Cognitive Learning for Vision and Robotics (CLVR) Lab** | **USC** — California, USA
  Visiting Student | Advisor: Dr. Joseph Lim — *Nov 2020 - Present*
  - Proposed an assistive teleoperation framework for large-scale data collection for long-horizon tasks.
  - Worked on solving complex manipulation tasks in obstructed environments using visual observations.
- **Multimodal Digital Media Analysis (MIDAS) Lab** | **IIIT-Delhi** — Delhi, India
  Research Assistant | Advisor: Dr. Rajiv Ratn Shah — *Mar 2021 - Present*
  - Mentored a team of six undergraduates working on image retrieval for suspect identification.
  - Mentored a team of four undergraduates working on voice cloning and talking face generation.
- **Deep Cognition and Language Research (DeCLaRe) Lab** | **SUTD** — Singapore, Singapore
  Research Assistant | Advisor: Dr. Soujanya Poria — *Aug 2020 - Oct 2020*
  - Worked on zero-shot classification using Wasserstein generative adversarial networks.
- **Singapore University of Technology and Design BRAIN Lab** | **SUTD** — Singapore, Singapore
  *Research Intern | Advisor: Dr. Nengli Lim | Collaboration: A*STAR, Singapore* — *May 2019 - Aug 2019*
  - Proposed a disentangled representation learning approach for videos using Gaussian processes.
- **Infosys Center of Artificial Intelligence** | **IIIT-Delhi** — Delhi, India
  B.Tech thesis | Advisors: Dr. Saket Anand and Dr. Pavan Turaga — *Jan 2018 - Jun 2020*
  - Analysed Riemannian geometry of disentangled representations of deep generative models.
  - Proposed latent space parameterization as a product of orthogonal spheres for disentanglement.
- **Multimodal Digital Media Analysis (MIDAS) Lab** | **IIIT-Delhi** — Delhi, India
  Undergraduate Researcher | Advisor: Dr. Rajiv Ratn Shah | Collaboration: Bloomberg, NYC — *Jan 2019 - Jun 2020*
  - Proposed a two-step natural language inference framework for low-resource languages.

Work Experience

- **LinkedIn AI** — Bangalore, India
  Summer Intern | Social Graph Quality Team — *May 2020 - July 2020*
  - Proposed an algorithm for virality prediction of the posts using Bayesian inference.

Publications

- A. Liu*, **S. Uppal***, G. Sukhatme, J. Lim, P. Englert, Y. Lee. Distilling Motion-Planner Augmented Policies into Visual Control Policies for Robot Manipulation, *Conference on Robot Learning (CoRL), 2021*
- **S. Uppal***, S. Bhagat*, D. Hazarika, N. Majumdar, S. Poria, R. Zimmermann, A. Zadeh. Multimodal Research in Vision and Language: Review of Current and Emerging Trends, *Information Fusion Journal, 2021 (Impact Factor: 15.7)*
- D. Gupta, D. Bhasin, S. Bhagat, **S. Uppal**, P. Kumaraguru, R. Shah. Contrastive Personalization Approach to Suspect Identification, *Association for the Advancement of Artificial Intelligence (AAAI) Student Abstract*, 2021
- S. Bhagat*, **S. Uppal***, V. Yin, N. Lim. Disentangling Multiple Features in Video Sequences using Gaussian Processes in Variational Autoencoders, *European Conference on Computer Vision (ECCV), 2020*
- **S. Uppal**, V. Gupta, A. Swaminathan, D. Mahata, R. Gosangi, H. Zhang, R. Shah, A. Stent. Two-Step Classification using Recasted Data for Low Resource Settings, *Asia-Pacific Chapter of the Association for Computational Linguistics (AACL-IJCNLP), 2020*
- S. Bhagat*, V. Udandarao*, **S. Uppal***, S. Anand. DisCont: Self-Supervised Visual Attribute Disentanglement using Context Vectors, *MLI4SD Workshop, International Conference on Machine Learning (ICML), 2020*
- **S. Uppal***, A. Madan*, S. Bhagat*, Y. Yu, R. Shah. Category Consistent Cyclic Visual Question Generation, *ACM Multimedia (MMAsia), 2020*; *VQA and Dialogue Workshop, Computer Vision and Pattern Recognition (CVPR), 2020*

- J. Sikka, K. Satya, Y. Kumar, **S. Uppal**, R. Shah, R. Zimmermann. Learning based Methods for Code Runtime Complexity Prediction, *European Conference on Information Retrieval (ECIR), 2020*
- A. Shukla, S. Bhagat*, **S. Uppal***, S. Anand, P. Turaga. Product of Orthogonal Spheres Parameterization for Disentangled Representation Learning, *British Machine Vision Conference (BMVC), 2019*
- A. Shukla, **S. Uppal***, S. Bhagat*, S. Anand, P. Turaga. Geometry of Deep Generative Models for Disentangled Representations, *Indian Conference on Vision, Graphics and Image Processing (ICVGIP), 2018*

Teaching Experience

- **Deep Learning (CSE 641)**
  Teaching Assistant for a graduate level course with a class of 120 students — *Jan 2020 - May 2020*
- **Machine Learning (CSE 543)**
  Teaching Assistant for a graduate level course with a class of 150 students — *Aug 2019 - Dec 2019*

Awards and Achievements

- **Chairman's Merit Scholarship, IIIT-Delhi:** Among 4 out of 278 students for academic excellence *2016-2020*
- **Dean's Award for Academic Excellence:** Excellent academic performance in the last four semesters *2018-2020*
- **Dean's R&D Award:** Awarded for exceptional research contributions during undergraduate thesis *2018-2019*
- **Google Code Jam:** Global rank 52, awarded travel grant for Google I/O in Mountain View, California *2019*
- **GHCI Scholarship:** Awarded travel grant for Grace Hooper Celebration, India 2018
- **Joint Entrance Examination (JEE):** Among top 0.07% out of 1.2 million candidates *2016*
- **Principal's Commendation Medal:** School topper with 97.25% (best of 4) in Class XII *2016*
- **International Mathematics Olympiad, SOF:** Global rank 241 | Gold Medal *2013*
- **NASA Astronomy Olympiad:** All India Rank 4 *2013*

Co-curricular Activities

- **Mentor:** *Women in ML and Data Science (WiMLDS)*, Delhi Chapter *2021*
- **Reviewer:** *AACL-IJCNLP*, Student Research Workshop *2020*
- **Volunteer:** *NeurIPS* 2020-21; *ICML* 2020-21; *ICLR* 2021; *ACM Student Chapter* 2018-19 *2018-2021*
- **Invited Talks:** *Winter School on AI*, IIIT-Delhi; *Computer Vision and Pattern Discovery Group*, A*STAR *2019*
- **Organizer:** *Design360* Hackathon; *Chakravyuha* online cryptic hunt each with 250+ participants *2017-2018*