

# Gunjan Aggarwal

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## INTERESTS

COMPUTER VISION, GENERATIVE MODELS, CREATIVE AI, NLP

## EDUCATION

### GEORGIA TECH

MS IN COMPUTER SCIENCE | ML SPECIALIZATION WITH THESIS  
Aug. 2021 - Present | Atlanta, GA  
Expected May 2023

### BITS PILANI

B.E. (HONS.) IN COMPUTER SCIENCE  
2014-2018 | Pilani, India

## COURSEWORK

### GRADUATE

Deep Learning, Machine Learning with Limited Supervision

### UNDERGRADUATE

Data Mining, Information Retrieval, Probability and Statistics, Data Structure & Algorithms

## ACHIEVEMENTS

### ADOBE MAX SNEAKS

One of the 11 presenters Adobe wide to present my work on multi-conditional image generation at Adobe MAX SNEAKS, 2019 [Video link](#)

### GOOGLE CODE JAM

Achieved a global rank of 27 in "Code Jam to I/O for Women" and got invited to attend Google I/O, 2018

## SKILLS

Python • C++ • Java  
PyTorch • OpenCV • Scikit-learn  
Numpy

## POSITIONS

Founding member of Association for Computing Machinery - Women Chapter (BITS ACM-W)

## EXPERIENCE

**GEORGIA TECH | GRADUATE RESEARCHER UNDER PROF. DEVI PARIKH**  
Aug 2021 – Present | Atlanta, USA

- Working in the domain of creative AI

**ADOBE | SOFTWARE DEVELOPMENT ENGINEER-2**  
July 2018 – Aug 2021 | Noida, India

- Helped build the chatbot-framework from scratch, starting with Microsoft LUIS and Rasa, and moving on to designing in-house multi-lingual intent classification engine by utilizing embedding obtained from Google's Universal Sentence Encoder (USE)
- Applied HDBSCAN clustering on top of embeddings of low-confidence user utterances to identify new intents
- Worked on a PoC for designing a zero-shot pipeline for user intent identification using pre-trained BART model which alleviated the need to re-train model over each new intent

### ADOBE | INTERN

May 2017 - July 2017 | Noida, India

- Explored K-SVD algorithm for compressing raster images of PDF

### YRALS DIGITAL | INTERN

May 2016 - July 2016 | Mumbai, India

- Worked on detection of quotes and the speaker in an article

## PUBLICATIONS

**CFINEGAN: UNSUPERVISED MULTI-CONDITIONAL FINE-GRAINED IMAGE GENERATION** | NEURIPS WORKSHOP, 2019 | [PAPER LINK](#)

- Developed a multi-conditional image generation pipeline in an unsupervised way using a hierarchical GAN framework
- Given a texture and a shape image, the pipeline generates an output that preserves the shape of first and texture of second input image
- The proposed approach qualitatively outperformed the prior approaches over several benchmark datasets like CUB-200-2011 and Stanford Dogs

**ON THE BENEFITS OF MODELS WITH PERCEPTUALLY-ALIGNED GRADIENTS** | ICLR WORKSHOP 2020 | [PAPER LINK](#)

- Proposed to use the models adversarially trained with low perturbation bound for zero-shot tasks, as such models have interpretable gradients and their performance does not drop over clean images

**NEURO-SYMBOLIC GENERATIVE ART: A PRELIMINARY STUDY** | ICCV SHORT PAPER 2020 | [PAPER LINK](#)

- Proposed a new genre of art: neuro-symbolic generative art (NSG). A progressive GAN was trained over a symbolically generated dataset
- Evaluated the creativity of NSG vs the creativity of the original symbolic data through human studies

**DANCE2MUSIC: AUTOMATIC DANCE-DRIVEN MUSIC GENERATION** | UNDER SUBMISSION | [PAPER LINK](#)

- Proposed an approach to generate music conditioned on dance in a real-time fashion
- Proposed an offline approach to generate a paired dance and music dataset which was then used to train a deep neural network
- Human subjects favoured our approach more than other baselines