

Gunjan Aggarwal

<https://gunagg.github.io/>

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EDUCATION

- **Georgia Institute of Technology** Atlanta, GA
Master of Science in Computer Science — (Specialization: Machine Learning) Aug. 2021 – Present (Expected - 2023)
Thesis Advisor: [Prof. Devi Parikh](#)
- **Birla Institute of Technology and Science Pilani** Pilani, India
Bachelor of Engineering (Hons.) in Computer Science; GPA: 8.35/10.0 Aug. 2014 – July. 2018

RESEARCH INTERESTS

Computer Vision, Deep Learning, Natural Language Processing

EXPERIENCE

- **Georgia Institute of Technology** Atlanta, GA
Graduate Researcher under [Prof. Devi Parikh](#) Aug 2021 – Present
 - Working on problems related to creative multi-modal AI.
- **Adobe** Noida, India
Software Development Engineer-2 July 2018 – Aug 2021
 - **Chatbot**: Worked on Adobe Conversational AI from scratch, starting with Microsoft LUIS and Rasa, and moving on to designing in-house multi-lingual intent classifier by utilizing embedding from Google's Universal Sentence Encoder (USE) model. The chatbot is serving ~20,000 customers daily.
 - **User Intent Identification**: Applied HDBSCAN clustering algorithm on top of embeddings of low-confidence user utterances to identify new intents.
 - **Zero-shot Intent Classification**: 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.

PUBLICATIONS

- **Dance2Music: Automatic Dance-driven Music Generation** [Paper link](#)
Under Review
 - Proposed an approach to generate music conditioned on dance in a real-time fashion.
 - Used beam search based offline approach to generate a paired dance and music dataset which was then used to train a deep neural network. Dance frames were represented by poses obtained from OpenPose.
- **Neuro-Symbolic Generative Art: A Preliminary Study** [Paper link](#)
ICCC Short Paper 2020
 - 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.
- **On the Benefits of Models with Perceptually-Aligned Gradients** [Paper link](#)
ICLR 2020 Workshop: Towards Trustworthy ML
 - Showed the benefit of using low-perturbation bound adversarially trained models for different tasks, such as weakly supervised object localization and zero-shot transfer learning.
- **cFineGAN: Unsupervised multi-conditional fine-grained image generation** [Paper link](#)
NeurIPS 2019 Workshop: Machine Learning for Creativity and Design 3.0
 - Developed an unsupervised multi-conditional image generation pipeline.
 - Given two images, the pipeline generates an image that has the shape of first and texture of second image.
 - The work was selected as one of the top 11 projects to be showcased live on stage at Adobe MAX (Sneak Peek), 2019. [Video link](#)

PROJECT

- **Sentiment Analysis**: Used sentiment analysis to study the impact of social cause marketing advertisements on users by analyzing their comments extracted from YouTube.

PROGRAMMING SKILLS

- **Languages**: Python, C++, Java **Libraries**: Pytorch, OpenCV, Scikit-learn, Numpy