

GUNJAN CHHABLANI

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Education

- Georgia Institute of Technology** | *Atlanta, GA, USA* | **Aug 2022 – Present**
- M.S. Computer Science (ML Specialization, Thesis Track), GPA: 4.0
 - Coursework: DL for Robotics, DL, Computer Vision, ML, Natural Language Processing, Deep RL, Grad Algos
- BITS Pilani, K.K. Birla Goa Campus** | *Goa, India* | **Aug 2016 – Sep 2020**
- B.E. Computer Science, CGPA: 9.6/10, Batch Rank: 3/617
 - Featured Coursework: Neural Networks & Fuzzy Logic, Machine Learning, Data Mining

Experience

- Georgia Institute of Technology** | *Atlanta, GA* | *Graduate Research Assistant* | **Aug 2022 - Present**
- Leading a team of collaborators to work on **EvalAI**, an open-source platform to host AI challenges. Collaborated closely with several organizations including **Meta**, **CARLA**, **MIT**, **Amazon**, etc. to host **200+** AI challenges for top AI conferences.
 - Reduced AWS infrastructure costs from **\$7k to \$3k/month** with robust monitoring and auto-scaling setup.
 - Mentored two students during **Google Summer of Code 2023** for EC2-infrastructure optimizations and several host-side utilities for enhanced user experience.
 - **Tech Stack**: Django, AWS (EC2, SQS), Python 3.7/3.8, Docker, Prometheus, Kubernetes (EKS), StatsD, Bash
- Oracle India Pvt. Ltd.** | *Hyderabad/Bangalore, India* | *Member of Technical Staff* | **Sep 2020 – Aug 2022**
- **Custom Text Classification AI Service**: Developed multi-class classification text training pipeline and integrated evaluation metrics to OCI AI services using the MUSE model. Managed training, evaluation and serving of the models.
 - **Oracle Fusion - HCM Development**: Contributed to UI and model development. Automated several process tasks, including REST API testing using Postman by writing Python scripts for test case generation.
 - **Tech Stack**: Postman, TensorFlow, TF Serving, Python, git, Docker, Java, SQL, Oracle ADF
- University of Pittsburgh** | *Pittsburgh, PA* | *Research Intern* | **Jan 2020 – Aug 2020**
- **Enhanced Choroid Segmentation**: Worked on choroid segmentation in OCT scans using efficient U-Net++ architecture and dice loss, achieving high performance (mAP score of 0.96). Abstract accepted at ARVO 2021.
- IBM India Pvt. Ltd.** | *Gurgaon, India* | *Project Trainee* | **May 2019 – Jul 2019**
- Developed a MaskRCNN model in TensorFlow for car parts segmentation for an insurance client with 85% mAP score.

Projects

- GOAT-Bench: Multimodal Lifelong Navigation** [Paper accepted at CVPR 2024] | **Aug 2023 – Nov 2023**
- Conducted adapter-based RL finetuning of CroCo-v2 goal encoder for Instance-Image Navigation (subset of multimodal Navigation) using Habitat Lab. Improved upon frozen VC-1 encoder, achieving $\sim 5x$ success rate on unseen episodes.
- Open-Vocab Continuous Scene Representations (Course: CS8803 DL for Robotics)** | **Jan 2023-May 2023**
- Worked on combining CLIP embeddings with **CSR** for the **Housekeep** dataset for open-vocab rearrangement. Prepared data for momentum contrastive learning, showing effective generalization in experiments using edge prediction.
- MultiViz** | **Aug 2021 – May 2022**
- Developed a **framework** for interpreting multimodal models using techniques like LIME, EMAP, gradient methods and a novel cross-modal technique, on large models (LXMERT, MDETR, etc.) and datasets (VQA, GQA, Flickr30k, etc.).
- Core Contributor at HuggingFace** | **Feb 2021 – Feb 2022**
- Developed VisualBERT, PLBart and FNet transformer models in PyTorch, contributed 11 datasets and worked on README metadata validation feature, including testing, for the HuggingFace datasets library.
- Multimodal Multilingual Models** | **Jul 2021 – Aug 2021**
- Participated in the HuggingFace JAX/Flax sprint for **multilingual image captioning** and **multilingual VQA**, training ViT + BERT and ViT + BART on translated CC-12M dataset, and prepared Streamlit demos. Project ranked in top-15/50.

Select Publications

- **MultiViz: Towards Visualizing and Understanding Multimodal Models**. ICLR 2023.
- **Superpixel-based Knowledge Infusion in Deep Neural Networks for Image Classification**. ACMSE 2022.
- **Datasets: A Community Library for Natural Language Processing**. EMNLP 2021 (Demo Track, Best Paper).
- **DRIFT: A Toolkit for Diachronic Analysis of Scientific Literature**. EMNLP 2021 (Demo Track).
- **Multitask Prompted Training Enables Zero-Shot Task Generalization**. ICLR 2022 (Spotlight).

Technical Skills

Languages: Python, C++, SQL, Shell

Technologies/Frameworks: Habitat Lab, Slurm, Git, PyTorch, WandB Tensorflow, AWS, Sklearn, Streamlit, Django

Awards & Honors

- **Merit Scholarship**: Awarded Merit Scholarship for consistently ranking in the top 1% of students at BITS Goa.
- **Bronze Medal**: Earned a Bronze Medal for achieving the 3rd rank among 617 students in the batch.