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

3DGS for Embodied AI

Jan 2023 - Present

• Exploring Gaussian Splatting and NeRF-based representations for real-world unbounded scenes for embodied agents. Curriculum Learning for GPS-Free Indoor Social Navigation Jan 2024-May 2024

• Lead a project on exploring various curriculum learning strategies for removing GPS dependency in Indoor Social Navigation. Paper accepted at CVPR 2024 Embodied AI Workshop.

GOAT-Bench [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. MultiViz

Aug 2021 - May 2022

• Developed a framework for interpreting multimodal models using techniques like LIME, EMAP, gradient methods and a 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

- GOAT-Bench: A Benchmark for Multi-Modal Lifelong Navigation. CVPR 2024.
- MultiViz: Towards Visualizing and Understanding Multimodal Models. ICLR 2023.
- 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.
- Served as the reviewer: NeurIPS 2023