

Chaitanya Devaguptapu

<https://chaitanya.one>

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Education

Indian Institute of Technology, Hyderabad

Masters by Research (M.Tech-RA) in Computer Science

Aug 2019 - Jul 2022

GPA: 9.7/10

- *Advisor:* Dr. Vineeth N Balasubramanian
- *Awards:* Shastri Research Fellowship, Appreciation in Research by Department of CSE

Jawaharlal Nehru Technological University, Hyderabad

B.Tech in Electronics and Communication

Aug 2014 - May 2018

Experience

Fujitsu Research India

Applied Researcher - II

July 2022 - Present

Led the creation of a new team focused on the intersection of Generative AI, specifically integrating Large Language Models (LLMs) with Knowledge Graphs, to develop customer-centric products and conduct cutting-edge research.

Prior to this, I have worked on research projects related on Domain Adaptation for Point Cloud data. This work was accepted and presented at WACV-2024, and I have also worked on inducing structure in self-supervised vision transformers to enhance model performance and understanding.

Specialized in addressing complex problems involving LLMs, Graphs, and 3D data, aiming to push the boundaries of AI applications and innovation.

PAIR lab, University of Toronto

Visiting Graduate Researcher

Jan 2021 - July 2022

Advisor: Dr.Animesh Garg

Worked on problems related to data-efficient transfer learning and finegrained video understanding

Indian Institute of Technology (IIT), Hyderabad

Research Assistant

June 2018 - July 2022

Advisor: Dr.Vineeth N Balasubramanian

Conducted Research on borrowing features from data-rich domains to improve object detection in domains with less annotated data. Parallely, I worked on object detection in low-resolution Thermal Images. The research was supported by DRDO, Government of India.

Papers and Patents

- [1] **Chaitanya Devaguptapu**^{*}, Siddharth Katageri^{*}, Arkadipta De^{*}, Prasad Kasu, Charu Sharma, Manohar Kaul Synergizing Contrastive Learning and Optimal Transport for 3D Point Cloud Domain Adaptation, In Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision (WACV 2024) ([Oral – Top 7% of accepted papers](#))
- [2] Shivangana Rawat, **Chaitanya Devaguptapu**, V. Balasubramanian, Partial Label Learning meets Active Learning: Enhancing Annotation Efficiency through Binary Questioning, International Conference on Machine Learning (ICML) Workshops, 2023.

- [3] **Chaitanya Devaguptapu**, Devansh Agarwal, Gaurav Mittal, Pulkit Gopalani, V. Balasubramanian; Balasubramanian, On Adversarial Robustness: A Neural Architecture Search Perspective, Workshop on Adversarial Robustness in the Real World, **ICCV-21**, also accepted at **ICLR-21** workshops (as a [Contributed Talk and Spotlight](#))
- [4] **Chaitanya Devaguptapu*** Akshay Chandra L*, Sai Vikas Desai*, , V. Balasubramanian. "On Initial Pools for Deep Active Learning", Preregistration Workshop at **NeurIPS 2020** (PMLR Volume 148)
- [5] **Chaitanya Devaguptapu**, Ninad Akolekar, Manuj Sharma, V. Balasubramanian., A Methodology for Transfer of Knowledge from Data-Rich Domains for Thermal Image Processing, **Indian Patent** Application No. 202011032663 (filed in Aug 2020)
- [6] **Chaitanya Devaguptapu**, Ninad Akolekar, Manuj Sharma, V. Balasubramanian. "Borrow from Anywhere: Pseudo Multi-modal Object Detection in Thermal Imagery," Workshop on Perception Beyond the Visible Spectrum, **CVPR 2019** ([Spotlight](#))

Pre-prints

- [1] Shivam Chandhok, Krishna Murthy Jatavallabhula, **Chaitanya Devaguptapu**, Qiao Gu, Deepti Balachandra Hegde, George Tang, Connie Jiang, Sarah Schwettmann, Joshua B. Tenenbaum, Vibhav Vineet, Ondrej Miksik, Vineeth N. Balasubramanian, Leonid Sigal, Antonio Torralba, *Neurosymbolic Language Models for 3D Understanding*
- [2] **Chaitanya Devaguptapu**, Samarth Sinha, Joseph K J, V. Balasubramanian, Animesh Garg, Δ -Networks for Efficient Model Patching
- [3] **Chaitanya Devaguptapu**, Sumukh Aithal, Yamada Moyuru, Manohar Kaul, Semantic Graph Consistency: Going Beyond Patches for Regularizing Self-Supervised Vision Transformers
- [4] Pranoy Panda, Ankush Agarwal, **Chaitanya Devaguptapu**, Manohar Kaul, Prathosh AP, HOLMES: Hyper-Relational Knowledge Graphs for Multi-hop Question Answering using LLMs
- [5] Vivek Vardhan, Shivangana Rawat, **Chaitanya Devaguptapu**, Charu Sharma, Manohar Kaul, Text-guided Insertion and Replacement in 3D Scenes

Industry/Other Experience

UpGrad June-2020 - Jan 2023
Small Group Coach *Remote*

As a Small Group Coach, I hold a 1.5 hour session every 15 days to clear the doubts of students pursuing upGrad's PG Diploma in Machine Learning, Data Science.

Udacity Jan 2017 - Dec 2020
Student Mentor *Remote*

I guide nanodegree students and review, debug, asses code files of projects submitted as a part of Deep Learning and AI Nanodegree's

SmatSocial Dec 2016 - Feb 2017
Machine Learning Intern *Hyderabad, India*

Worked on building a system for automated emotion recognition from speech. The project was more applied in nature, we made use of several open-source NLP and Speech Processing libraries.

InfiBooks*Data Analyst Intern*

Oct 2016 - Dec 2017

Hyderabad, India

Built an end-to-end data cleaning pipeline; Analysed purchase patterns of users and suggested methods to increase the sales; Automated the process of data collection.

Service and Achievements

Awards: Shastri Research Student Fellowship - 2020 (one among the 8 students selected from India), Appreciation in Research Award by Department of CSE, IIT-Hyderabad

Reviewer: NeurIPS-2022, ICLR-2022, ECCV-2022, IEEE Pattern Recognition Journal, MFI-2020, WACV-2022, NeurIPS-2023, WACV-2024, AAAI-2024

Sub-Reviewer: NeurIPS-2023, WACV-2023, CVPR-2019, ECML-PKDD-2019, ICCV-2019, AAAI-2020, ICLR-2020, BMVC-2020, NeurIPS-2020

Started an ACM student chapter at IIT-Hyderabad with my peers; Serving as a Vice chair for this chapter (Oct 2020 - June 2021). Organized various research talks and events to promote student-driven research culture at IIT-Hyderabad

Served as a System-Admin for NVIDIA DGX system at IIT-Hyderabad

Relevant Coursework, Certifications

IIT-H: CS5370 Deep Learning for Vision, CS6440 Special Topics in Machine Learning, CS5500 Reinforcement Learning

Online: *Udacity Nanodegree's:* Deep Learning (March, 2018); Machine Learning (August 2016); *Coursera:* Machine Learning Specialisation by University of Washington.