Revant Teotia

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EDUCATION

NYU Courant Institute of Mathematical Sciences — New York, NY
Ph.D. in Computer Science — *Sep 2023 -*

Columbia University — New York, NY
M.S. in Computer Science — *Sep 2021 - Dec 2022*

Indian Institute Of Technology Kanpur — Kanpur, India
B.Tech. in Computer Science and Engineering — *Jul 2013 - May 2017*

PUBLICATIONS

- DIMCIM: A Quantitative Evaluation Framework for Default-mode Diversity and Generalization in Text-to-Image Generative Models, [arXiv] [code]
  Revant Teotia, Candace Ross, Karen Ullrich, Sumit Chopra, Adriana Romero-Soriano, Melissa Hall, Matthew J. Muckley,
  ICCV 2025

- Codesign of Tensors Encoding And Transcoding: A Building Block For Decentralized AI, [paper]
  Revant Teotia, Muhammad Haseeb,
  Workshop on Networks for AI Computing, ACM SIGCOMM 2025

- Affective Faces for Goal-Driven Dyadic Communication, [arXiv] [project page]
  Scott Geng, **Revant Teotia**, Purva Tendulkar, Sachit Menon, Carl Vondrick,
  In submission

- Doubly Right Object Recognition: A Why Prompt for Visual Rationales, [paper]
  Chengzhi Mao, **Revant Teotia**, Amrutha Varshini Sundar, Sachit Menon, Junfeng Yang, Xin Wang, Carl Vondrick,
  CVPR 2023

- COFAR: Commonsense and Factual Reasoning in Image Search, [paper][project page]
  Prajwal Gatti, Abhirama Penamakuri, **Revant Teotia**, Anand Mishra, Shubhashis Sengupta, Roshni Ramnani,
  AACL-IJCNLP 2022

- Doubly Right Object Recognition, [paper]
  Revant Teotia, Chengzhi Mao, Carl Vondrick,
  ICML 2022 Workshop on Spurious Correlations, Invariance, and Stability (**Spotlight talk, among top-5 papers**)

- Finding Spuriously Correlated Visual Attributes, [paper]
  Revant Teotia, Chengzhi Mao, Carl Vondrick,
  ICML 2022 Workshop on Spurious Correlations, Invariance, and Stability

- Few-shot Visual Relationship Co-localization, [paper][project page][code]
  Revant Teotia, Vaibhav Mishra, Mayank Maheshwari, Anand Mishra,
  ICCV 2021

- Realtime Indoor Workout Analysis Using Machine Learning & Computer Vision, [paper]
  Amit Nagarkoti, **Revant Teotia**, Amith K. Mahale, and Pankaj K. Das,
  IEEE EMBC 2019

EXPERIENCE

Fair Labs, Meta AI — New York, NY
Visiting Researcher — *Sep 2024 - Present*

- Working on computer vision and machine learning problems.

Langone Radiology Department, New York University — New York, NY
PhD student researcher in Sumit Chopra's Lab — *Sep 2023 - Present*

- Working on developing machine learning techniques for Radiology applications.

Computer Science Department, Columbia University   New York, NY
Research Assistant in Carl Vondrick's group   *Sep 2021 - Aug 2023*

- Explainable models: making object recognition models explainable using object descriptions. Training visual prompt for large vision-language model CLIP to give right reasons for predictions.
- Social AI: Understanding human emotions, cultures and interactions from unlabeled videos. Using implicit social knowledge in large language model GPT-3 with vision-language model CLIP to model human interactions.

Indian Institute of Technology Jodhpur   Jodhpur, India
Research Assistant in Anand Mishra's Vision, Language, and Learning Group (VL2G)   *Jul 2020 - Aug 2021*

- Analyzed novel problem of Visual Relationship Co-localization and invented a meta-learning based optimization framework to solve it in a few-shot manner. Published in ICCV 2021.   [paper][project page][code]
- Worked on incorporating commonsense and factual reasoning in image search using external knowledge sources. Published in AACL-IJCNLP 2022.   [paper][project page]

Samsung Research Institute   Bangalore, India
Senior Software Engineer, Samsung Health Team   *Jul 2017 - Jul 2019*

- Designed and developed the C++ modules of BLE/NFC communication between Samsung smartwatch and gym fitness equipments. Announced at CES2020 and enjoyed by millions of Samsung Galaxy series 2020 smartwatch users.   [news]
- Created a home workout video analysis system using CNN-based human pose-estimation, Optical Flow and Dynamic Time Warping algorithm. Published in IEEE EMBC 2019.   [paper]