

# Utkarsh Mall

PH.D. CANDIDATE, CORNELL UNIVERSITY

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## Education

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### Cornell University

2017-2023 (expected)

Ph.D. Candidate in Computer Science, GPA 3.9

Advisors: Kavita Bala and Bharath Hariharan

### Indian Institute of Technology Bombay

2013-2017

B.Tech with Honors in Computer Science and Engineering, Grade 9.1/10

Advisors: Siddhartha Chaudhuri and Parag Chaudhuri

## Research Interests

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*My research lies in computer vision. I focus on building recognition models that can learn with little to no supervision and using these models to make discoveries from visual data. I have applied this work to a range of application domains from fashion to satellite images.*

## Publications

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### Change Event Dataset for Discovery from Spatio-temporal Remote Sensing Imagery

**Utkarsh Mall**, Bharath Hariharan, Kavita Bala

Neural Information Processing Systems (Neurips), Datasets and Benchmarks Track (**Featured**), 2022

### Zero-shot Learning Using Multimodal Descriptions

**Utkarsh Mall**, Bharath Hariharan, Kavita Bala

CVPR Workshop on Learning with Limited Labelled Data for Image and Video Understanding, 2022

### Discovering Underground Maps from Fashion

**Utkarsh Mall**, Kavita Bala, Tamara Berg, Kristen Grauman

Winter Conference on Applications of Computer Vision (WACV), 2022

### Field-Guide-Inspired Zero-Shot Learning

**Utkarsh Mall**, Bharath Hariharan, Kavita Bala

International Conference on Computer Vision (ICCV) 2021

### PiCIE: Unsupervised Semantic Segmentation using Invariance and Equivariance in Clustering

Jang Hyun Cho, **Utkarsh Mall**, Kavita Bala, Bharath Hariharan

Computer Vision and Pattern Recognition (CVPR) 2021

### GeoStyle: Discovering Fashion Trends and Events

**Utkarsh Mall**, Kevin Matzen, Bharath Hariharan, Noah Snavely, Kavita Bala

International Conference on Computer Vision (ICCV) 2019

### Batch-Switching Policy Iteration

Shivaram Kalyanakrishnan, **Utkarsh Mall**, Ritish Goyal

International Joint Conference on Artificial Intelligence (IJCAI) 2016

## Inter-disciplinary Publications and Pre-prints

### Computing colorism: skin tone in online retail imagery

Chelsea Butkowski, Lee Humphreys, **Utkarsh Mall**

Visual Communication, 2022

## ML for Tracking Fashion Trends: Documenting the Frequency of the Baseball Cap on Social Media and the Runway

Rachel Rose Getman, Denise Nicole Green, Kavita Bala, **Utkarsh Mall**, Nehal Rawat, Sonia Appasamy, Bharath Hariharan

Clothing and Textiles Research Journal, June 2020

## Studying the Effect of Spatial Distribution of Dynein Motors

Hanumant Pratap Singh, Anjneya Takshak, **Utkarsh Mall**, Ambarish Kunwar

International Journal of Modern Physics C (IJMPC) 2016

## A Deep Recurrent Framework for Cleaning Motion Capture Data

**Utkarsh Mall**, G. Roshan Lal, Siddhartha Chaudhuri, Parag Chaudhuri

ArXiv Preprint, 2017

## Academic Service

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### Reviewer

- Computer Vision and Pattern Recognition (CVPR): **Outstanding** Reviewer in 2021, Emergency Reviewer in 2021 and 22 2020, 2021, 2022, 2023
- International Conference on Computer Vision (ICCV): Emergency Reviewer in 2021 2019, 2021
- International Conference on 3D Vision (3DV): Emergency Reviewer in 2021 2020, 2021, 2022
- European Conference on Computer Vision (ECCV): Emergency Reviewer in 2022 2020, 2022
- Winter Conference on Applications of Computer Vision (WACV): Emergency Reviewer in 2023 2020, 2021, 2022, 2023
- Neural Information Processing Systems (NeurIPS) 2022
- Asian Conference on Computer Vision (ACCV) 2020, 2022
- Machine Vision Applications (MVA) 2021
- Association for the Advancement of Artificial Intelligence (AAAI) 2019

### Workshop Reviewer

- Workshop on Computer Vision for Fashion, Art, and Design (at CVPR) 2021, 2022
- Workshop on Learning with Limited Labelled Data for Image and Video Understanding (at CVPR) 2022
- International Workshop and Challenge on People Analysis (at ECCV) 2022

### Invited Journal Reviewer

- IEEE Transactions on Multimedia 2020

### Ph.D. Application Reviewer

- Computer Science, Cornell University 2022, 2023

## Invited Talks

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### Machine Learning Lunch

Pinterest Inc.

Discovering Events, Trends, and Neighborhood Maps with Fashion

Feb, 2022

### Grad Student Lunch

Cognitive Science at Cornell University

Field-Guide-Inspired Zero-Shot Learning

Mar, 2022

## Teaching Experience

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### CS 5670: Introduction to Computer Vision

Cornell University

Teaching Assistant for Noah Snaveley

Spring 2018

Awarded **Outstanding TA**.

### CS 1620: Visual Imaging in the Electronic Age

Cornell University

Teaching Assistant for Don Greenberg

Fall 2017

**CS 475/675: Computer Graphics***Teaching Assistant for Siddhartha Chaudhuri**IIT Bombay**Fall 2016***BB 101: Introduction to Biology***Teaching Assistant for Ambarish Kunwar, Ranjith Padinhateeri**IIT Bombay**Fall 2014, Spring 2017*

## Awards and Honors

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- Cornell Graduate Student Travel Grant 2019, 2022
- Cognitive Science Conference Grant 2022
- Outstanding TA Award, Cornell University 2018
- Gold Medalist at Indian National Physics Olympiad 2013
- Ranked 1st Regionally and 18th Nationally at Junior Mathematics Olympiad. 2011

## Work Experience

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**Discovering Underground Maps from Fashion***Facebook AI Research*

KRISTEN GRAUMAN

*Summer and Fall 2020*

Developed a novel technique to discover underground neighborhood maps from clothing styles in social media images. Also introduced two non-visual benchmarks that capture the underground neighborhood notion of 37 worldwide cities, Introduced methods to discover meaningful insights (e.g., uniqueness, analogies, historical expansion) from the produced underground maps.

**Rule-Based Health Monitoring System***Goldman Sachs Group, Inc.*

SACHINDRA NATH

*Summer 2016*

Designed and Implemented a Rule Engine, allowing monitoring of running hosts, processes, and applications. The rule engine sends alerts about the health of the system, based on the rules matching with incoming telemetry data. Built REST endpoints and designed a web user interface on top of it, allowing users to manage rules.

**Data Visualization Web Applications***Jeevomics Pvt. Ltd.*

ANKIT MALIK

*Winter 2014*

Developed web services to generate dynamic visualizations from diabetes diagnosis data. Used Google maps API and D3 to create the web application using a python-flask back end. Used a regularized regression model to fit data and find useful relations between metabolites concentration.

## Skills

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**Programming Languages:** Python, C/C++, Java, Prolog, OCaml, R, Matlab**Web/Application Development:** Python-Flask, Angular, Drools, Mongo, SQL**Machine Learning:** Tensorflow, PyTorch, PyTorch-lightning