





# AVI GUPTA

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## Summary

I am a third-year Ph.D. student at IIIT Delhi, advised by Dr. Koteswar Rao Jerripothula and Dr. Tammam Tillo. My research interests include Computer Vision and Deep Learning. Particularly, I work in the field of Semantic Segmentation in large vision models, Incremental Learning, and Camouflaged Scene Understanding.

## Education

<b>Indraprastha Institute of Information Technology, Delhi</b> <i>Doctoral Student (Ph.D.) in Computer Science</i>	<b>Aug. 2022 – Present</b> <i>Delhi, Delhi</i>
<b>Dr. Akhilesh Das Gupta Institute of Technology &amp; Management, Delhi</b> <i>Bachelor of Technology in Information Technology (8.56/10)</i>	<b>Aug. 2017 – July 2021</b> <i>Delhi, Delhi</i>

## Relevant Coursework

- Advanced Machine Learning
- Artificial Intelligence
- BigData Mining in Healthcare
- Computer Vision
- Digital Image Processing
- Machine Learning

## Teaching Experience

- Meta-Learning
- Database Management System
- Introduction to Programming
- Digital Image Processing

## Industry Experience

<b>Tata Consultancy Services</b> <i>Cloud Developer</i>	<b>Jul 2021 – Aug 2022</b> <i>Delhi, Delhi</i>
NFV OpenStack technology to deploy cloud services (Python, Flask, Openstack, Shell Scripting, Linux, OpenSource Mano)	
<b>Digital Green</b> <i>Backend Developer Intern</i>	<b>Jun 2019 – Aug 2019</b> <i>Delhi, Delhi</i>
Script Development for Automation of Monitoring mailer for Data and Revenue reconciliation (Python, Django-ORM, Shell Scripting, Linux)	

## Research Projects

<b>Class-Incremental Semantic Segmentation</b> <i>Ongoing</i>	<b>Sept 2024 – Present</b>
Incrementally learning to segment new classes by mitigating the background shift and catastrophic forgetting of old classes by adapting knowledge distillation, contrastive learning, and generative replay.	
<b>Efficient adaptation of SAM for low-level vision tasks</b> <i>Ongoing</i>	<b>Jul 2024 – Present</b>
Adapting large vision model ( <b>SAM</b> & <b>SAM2</b> ) for low-level vision tasks (like camouflaged object detection, shadow detection, blur detection, forgery detection) using various wavelet transformations.	
<b>Rethinking personalized SAM using classification overhead</b> <i>Ongoing</i>	<b>Aug 2024 – Present</b>
Working with the SAM model to segment the specified object using image supervision and identifying similar semantics using classification overhead.	
<b>Logo prediction from a classification vector</b> <i>Ongoing</i>	<b>Aug 2024 – Present</b>
Using an encoded vector representation from a classification network to predict a logo of the respective semantic category.	

Publications

IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)  
CIRCOD: Co-Saliency Inspired Referring Camouflaged Object Discovery  
Avi Gupta, Koteswar Rao Jerripothula, Tammam Tillo

2025

SIGCSE TS 2024 Posters  
An Experience Report on Teaching a Large Introductory Programming Course in Hybrid Mode  
Shyama Sastha Krishnamoorthy Srinivasan, Avi Gupta, Pankaj Jalote

2024

Reviewer

- ICASSP
  - ICPR
- TheWebConf
  - CIKM

Achievements

Travel grant  
Received a travel grant to present my work at BITS Goa IndoML 2024

2024

GATE  
Qualified

2021, 2022

TCS On the Spot Award  
Part of the Team that presented the demo to clients on behalf of our project

2021