

Jitesh Jain

PH.D. STUDENT | COMPUTER SCIENCE | GEORGIA TECH

✉ jitesh.jj2@gmail.com | 🏠 praeclarumjj3.github.io | 📄 praeclarumjj3 | 📺 jitesh-jain-1451b9192/ | 🐦 praeclarumjj

Education

Georgia Tech

PH.D. STUDENT IN COMPUTER SCIENCE

- Advisor: Prof. Humphrey Shi
- CGPA: 4.0/4.0

Atlanta (GA)

Since Fall 2023

Indian Institute of Technology Roorkee

B.TECH. IN COMPUTER SCIENCE AND ENGINEERING

- CGPA: 9.0/10

Roorkee, India

2019 - 2023

Experience

SHI Labs @ UIUC & U of Oregon

RESEARCH INTERN

- Worked with Prof. Humphrey Shi.
- Released a work proposing a multi-task universal image segmentation framework (OneFormer) that outperforms existing specialized models on all three image (panoptic, semantic, and instance) segmentation tasks.
- Published a work proposing an inpainting framework (FcF-Inpainting) using *Fast Fourier Convolutions* which works equally well on structure and texture images and is competitive with the state-of-the-art methods.

Eugene (OR)

November 2020 - June 2023

Picsart AI Research

RESEARCH INTERN

- Worked as a part of the then newly founded Picsart AI Research Team and released the first ever open-source project by Picsart.
- Released a work (SeMask) proposing to add semantic context inside vision transformer-based encoders of any existing semantic segmentation framework to obtain considerable performance improvement.
- Worked partly on OneFormer during my internship.

Remote

June 2021 - September 2022

Publications

VCoder: Versatile Vision Encoders for Multimodal Large Language Models

JITESH JAIN, JIANWEI YANG, HUMPHREY SHI

- [\[PrePrint\]](#) [\[GitHub\]](#) [\[Project Page\]](#)

CVPR 2024

SHI Labs @ GaTech

OneFormer: One Transformer to Rule Universal Image Segmentation

JITESH JAIN, JIACHEN LI*, MANGTIK CHIU*, ALI HASSANI, NIKITA ORLOV, HUMPHREY SHI

- [\[PrePrint\]](#) [\[GitHub\]](#) [\[Project Page\]](#)

CVPR 2023

SHI Labs @ UIUC & UO

Matting Anything

JIACHEN LI, JITESH JAIN, HUMPHREY SHI

- [\[PrePrint\]](#) [\[GitHub\]](#) [\[Project Page\]](#)

arXiv 2023

SHI Labs @ UIUC & UO

Keys to Better Image Inpainting: Structure and Texture Go Hand in Hand

JITESH JAIN*, YUQIAN ZHOU*, NING YU, HUMPHREY SHI

- [\[PrePrint\]](#) [\[GitHub\]](#) [\[Project Page\]](#)

WACV 2023

SHI Labs @ UIUC & UO

SeMask: Semantically Masked Transformers for Semantic Segmentation

JITESH JAIN, ANUKRITI SINGH, NIKITA ORLOV, ZILONG HUANG, JIACHEN LI, STEVEN WALTON, HUMPHREY SHI

- [\[PrePrint\]](#) [\[GitHub\]](#)

NIVT Workshop @ICCV 2023

Picsart AI Research (PAIR)

Projects

Neural Style Transfer: A Technical Report

CSN-526 COURSE PROJECT

- Worked on studying the effects of various factors like feature extractors, optimizers, loss functions, etc. techniques on the NST task.
- We also proposed the use of pseudo-ground truths for evaluating the performance under different settings. [\[GitHub\]](#)

IIT Roorkee

January 2022 - April 2022

BackBone Profile

SHI LAB @ UIUC & UO

Remote

December 2020

- Most of the Segmentation works use networks pretrained on Imagenet as backbones for feature extraction.
- Analyzed backbones like ResNet 18/34/50/101, MobileNetv2, etc. to evaluate their inference time performance metrics. [GitHub]

Other Significant Projects

SOME OTHER SIGNIFICANT PROJECTS ARE AS FOLLOWS:

- **VQ-VAE Implementation in Pytorch:** Implemented VQ-VAE from scratch in Pytorch on the MNIST dataset as a self-learning project. [GitHub]
- **ChatBot with Pytorch:** Implemented a chatbot in PyTorch using GRUs with an Attention mechanism. [GitHub]

Honours & Achievements

- 2022 **Bronze Medalist**, Awarded the Bronze Medal under Bosch's Age and Gender Detection Track at Inter IIT Tech Meet 10.0. The competition is held every year among all the IITs. [Certificate]
- 2019 **All India Rank - 252**, Joint Entrance Exam (JEE) Advanced is attempted by more than 230,000 students across India for admission into the IITs. [Certificate]
- 2019 **All India Rank - 454**, Joint Entrance Exam (JEE) Main is attempted by more than 1,000,000 students across India to gain eligibility for attempting JEE Advanced. [Certificate]
- 2018 **KVPY Fellowship Holder**, KVPY is a highly prestigious National Fellowship awarded by the Indian Institute of Science to students showing high aptitude in research. [Certificate]
- 2017 **NTSE Scholarship Awardee**, NTSE is a national level examination for the secondary school level to identify and recognize students with high intellect and skills. [Certificate]

Extracurricular Activity

Vision and Language Group, IIT Roorkee

CO-PRESIDENT

Roorkee, India

January 2020 - May 2023

- Co-President of VLG IITR, a student group that promotes *Deep Learning research culture* at IITR by discussing relevant research papers, organizing workshops and working on projects. [Website]

MDG Space, IIT Roorkee

PROJECT MANAGER

Roorkee, India

January 2020 - May 2023

- Project Manager at MDG Space in IIT Roorkee, involved in developing and managing mobile applications in Flutter. [Website]

Student Mentorship Program, IIT Roorkee

STUDENT MENTOR

Roorkee, India

October 2021 - May 2022

- Mentored freshers at IITR for their smooth transition to campus life, motivating their academic and co-curricular endeavors. [Certificate]

References

Prof. Humphrey Shi

ASSOCIATE PROFESSOR @GEORGIA TECH | CHIEF SCIENTIST @PICSART

United States

- Email: shi@gatech.edu

Dr. Yuqian Zhou

RESEARCH SCIENTIST @ADOBE RESEARCH

United States

- Email: yuqzhou@adobe.com

Dr. Ning Yu

RESEARCH SCIENTIST @SALESFORCE RESEARCH

United States

- Email: ning.yu@salesforce.com

Dr. Nikita Orlov

TEAM LEADER @PICSART

Russia

- Email: nikita.orlov@picsart.com