

# 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; Expected Spring 2027

### Indian Institute of Technology Roorkee

B.TECH. IN COMPUTER SCIENCE AND ENGINEERING

- CGPA: 9.0/10

Roorkee, India

2019 - 2023

## Experience

### Microsoft Research, Redmond

RESEARCH INTERN | MENTOR: DR. JIANWEI YANG

- Working on developing an improved visual representation learning technique for Multimodal Large Language Models (MLLMs).

Redmond (WA)

May 2024 - Present

### SHI Labs @ UIUC & U of Oregon

RESEARCH INTERN | MENTOR: PROF. HUMPHREY SHI

- Published a work proposing a multi-task universal image segmentation framework (OneFormer) Also published a work proposing an inpainting framework (FcF-Inpainting) using *Fast Fourier Convolutions* which works equally well on structure and texture images.

Eugene (OR)

November 2020 - June 2023

### Picsart AI Research

RESEARCH INTERN | MENTOR: DR. HUMPHREY SHI

- Published a work (SeMask) proposing to add semantic context inside vision transformer-based encoders of any existing semantic segmentation framework to obtain considerable performance improvement. SeMask is the first ever open-source project released by Picsart AI Research.

Remote

June 2021 - September 2022

## Publications

For a complete list of my research works, please lookup my [google-scholar](#).

### VCoder: Versatile Vision Encoders for Multimodal Large Language Models

JITESH JAIN, JIANWEI YANG, HUMPHREY SHI

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

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

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

CVPR 2023

SHI Labs @ UIUC & UO

### Benchmarking Object Detectors with COCO: A New Path Forward

SHWETA SINGH\*, AAYAN YADAV\*, JITESH JAIN, HUMPHREY SHI, JUSTIN JOHNSON, KARAN DESAI

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

ECCV 2024

SHI Labs @ GaTech

### Matting Anything

JIACHEN LI, JITESH JAIN, HUMPHREY SHI

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

CVPRW 2024

SHI Labs @ UIUC & UO

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

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

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

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

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

ICCVW 2023

Picsart AI Research (PAIR)

## Honours & Achievements

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- 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

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### Vision and Language Group, IIT Roorkee

Roorkee, India

CO-PRESIDENT

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

Roorkee, India

PROJECT MANAGER

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

Roorkee, India

STUDENT MENTOR

October 2021 - May 2022

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

## References

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### Prof. Humphrey Shi

United States

ASSOCIATE PROFESSOR @GEORGIA TECH | CHIEF SCIENTIST @PICSART

- Email: shi@gatech.edu

### Dr. Jianwei Yang

United States

PRINCIPAL RESEARCHER @MICROSOFT RESEARCH, REDMOND

- Email: jianwei.yang@microsoft.com

### Dr. Yuqian Zhou

United States

RESEARCH SCIENTIST @ADOBE

- Email: yuqzhou@adobe.com

### Dr. Ning Yu

United States

RESEARCH SCIENTIST @NETFLIX EYELINE STUDIOS

- Email: ningyu.hust@gmail.com