

# SHRISHA BHARADWAJ



## Education

### Max Planck Institute for Intelligent Systems

PhD in Computer Science

Supervisor: Dr. Michael J. Black, Dr. Victoria Fernandez-Abrevaya

Tübingen, Germany

Oct 2024 – Present

### University of Tübingen

MSc in Machine Learning

Supervisor: Prof. Andreas Geiger

Tübingen, Germany

Oct 2019 – Jun 2022

### B.M.S College of Engineering

BEng in Electronics and Telecommunication

Bengaluru, India

Jun 2014 – Jun 2018

## Publications

### GenLit: Reformulating Single Image Relighting as Video Generation

Shrisha Bharadwaj\*, Haiwen Feng\*, Giorgio Becherini, Victoria Fernandez Abrevaya, Michael J. Black.  
*SIGGRAPH Asia (Conference Track), 2025.*

### SPARK: Self-supervised Personalized Real-time Monocular Face Capture

Kelian Baert, Shrisha Bharadwaj, Fabien Castan, Benoit Maujean, Marc Christie, Victoria Fernandez Abrevaya, Adnane Boukhayma.  
*SIGGRAPH Asia (Conference Track), 2024.*

### FLARE: Fast learning of Animatable and Relightable Mesh Avatars

Shrisha Bharadwaj, Yufeng Zheng, Otmar Hilliges, Michael J. Black, Victoria Fernandez Abrevaya.  
*SIGGRAPH Asia (Journal Track), 2023.*

### A Novel Self-Supervised Re-labeling Approach for Training with Noisy Labels

Devraj Mandal\*, Shrisha Bharadwaj\*, Soma Biswas.  
*WACV, 2020.*

## Experience

### Max Planck Institute for Intelligent Systems

Research Intern | Supervisor: Dr. Victoria Fernandez-Abrevaya

Developed a neural approximation to the split-sum rendering equation to disentangle lighting, materials, and geometry from monocular views, enabling relightable 3D reconstructions and animation with 3DMM.

Tübingen, Germany

Sept 2022 – Sept 2024

### University of Tübingen

MSc. Thesis | Supervisor: Prof. Andreas Geiger

Depth-guided 3D Reconstruction with Radiance Fields: Introduced depth-based confidence maps to improve the efficiency of sampling the points. Implemented depth-based supervision to improve 3D reconstruction. Evaluated on ShapeNet and incorporated stereo-priors to improve results on the KITTI-360 dataset.

Tübingen, Germany

Nov 2021 – Jun 2022

Research Assistant | Supervisor: Prof. Andreas Geiger

Holistic Scene Perception: Developed a point-based and voxel-based shape completion method to improve 3D reconstruction given sparse point clouds as input. Ablations were conducted on a weighted-chamfer distance to tackle sparse regions. Experiments were conducted on the KITTI-360 dataset and the leaderboard: EncDec.

Nov 2020 – Jun 2021

Research Assistant | *Supervisor:* Prof. Philipp Hennig

*Apr 2020 - Apr 2021*

BackPack: is build on PyTorch to compute second-order quantities other than the gradient. I worked on supporting (transposed-) convolutional for 2D/3D and activation layers for estimating diagonal hessian, variance, gauss-newton diagonal and KFAC during the backward pass.

## **Indian Institute of Science**

*Bengaluru, India*

Research Intern | *Supervisor:* Prof. Soma Biswas

*Apr 2019 – Oct 2019*

Built a method based on co-teaching to identify label noise and a clustering technique to re-label noisy labels with self-supervision. Evaluated it on MNIST, CIFAR10 and CIFAR100.

## **Cognitifai**

*Bengaluru, India*

Computer Vision Engineer | *Supervisor:* Dr. Sivaram Prasad Mudunuri

*Aug 2018 – Mar 2019*

Developed a pedestrian attribute recognition framework and trained it to recognise hand-held accessories with a weighted loss to address class imbalance in data. Developed a framework by combining a segmentation network with YOLOv2 to detect garbage bins from street photographs to estimate overflow.

## **Skills**

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Programming: Python, PyTorch, Blender, Git,  $\LaTeX$ , Diffusers, NVDiffrast.

Areas: Neural Rendering, Relighting, Video Diffusion Models, Physically-based Rendering, 3D Reconstruction, Inverse Rendering, NeRFs, Digital Humans, 3DMM.

## **Academic Services**

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Reviewer

SIGGRAPH Asia

*2025*

Eurographics

*2025*

CVPR

*2026*

## **Languages**

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English (proficient), German (basic), Kannada, and Tamizh (native)