

# ARYAN GARG



## EDUCATION

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**Indian Institute of Technology, Mandi**  
Bachelor's of Technology in Computer Science and Engineering

Aug 2019 - May 2023  
CGPA: 8.40/10

## ACADEMIC EXPERIENCE

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**Project Associate - Computational Imaging Lab, IIT Madras + Image Science Lab, CMU (TIH-NSF)** Jun '23 - Present

*Enhancing Autonomous and Assisted Driving using Thermal-RGB Fusion - Advisor: Dr. Kaushik Mitra*

- Project-1: Developing a deep learning-based solution to understand and restore extremely low light ( $\sim 1$  photon) scenes using Single Photon Cameras (SPCs) and Thermal Imaging modalities
- Project-2: Reconstructing light field videos from dual pixel videos captured from ubiquitous handheld devices using deep learning.

**MITACS Globalink Research Intern - Université Laval + Adobe, Canada** Jun '22 - Apr '23

*Deep Sky Modeling - Advisor: Dr. Jean-Francois Lalonde*

- Upgraded NVIDIA's semantic image synthesis model: SPADE for HDR generation of skies
- Segmentated Laval-SkyHDR dataset (34k HDR images) using an improvised R/B method
- Quantitatively evaluated SkyNet (ours), SPADE and SEAN
- **Abstract & Poster** accepted at **Symposium IA Montréal, 2022**
- **3rd Best Presentation of Paper:** Re-envisioning Sky Models at **Semaine numériQC, Quebec, 2023.**

**Research Assistant - IIT Mandi** Feb' 21 - Jun' 22

*Pedestrian Trajectory Prediction for Autonomous Vehicles - Advisor: Dr. Renu Rameshan*

- Created a deep policy gradients-based (RL) model for synthetic datasets.
- Implemented SIRENs in PECNet for robustness validation
- Achieved a **9.5% improvement** on existing (2020) state-of-the-art results of PECNet.
- **Preprint:** "Analyzing the Robustness of PECNet" (arXiv) (Repo)

### Teaching Assistantships

- CS208 - Mathematical Foundations of Computer Science (Prof. Samar Agnihotri) - Fall '21 IIT Mandi
- EE522 - Matrix Theory (Prof. Renu Rameshan) - Fall '21 IIT Mandi
- **NPTEL Course** - EE5719 Deep Learning for Imaging (Prof. Kaushik Mitra) - Fall '23 IIT Madras

## INDUSTRIAL EXPERIENCE

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**Mennr - Connecticut, USA (Remote)** Jul, 2023 - Present

*Co-Founder*

- Developing Autonomous AI Agents at Mennr to transform the educational sphere.

**Ciena - India** Jun 14, 2021 - Aug 31, 2021

*Software Developer Engineer Intern - Manager: Mr. Rajesh Bang*

- Created a Django-React-REST+Redux Web-App for Auditing Layer 2 and 3 Network Devices.
- Proposed & implemented a concurrent algorithm to connect DUTs reducing existing up times by **32%**.
- Created a DevOps (Jenkins) pipeline for network devices' development & testing.

## **POSITIONS OF RESPONSIBILITY**

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1. Guidance & Counselling Service (GCS) Mentor, IIT Mandi: Mentored 9 juniors
2. National Service Scheme - Volunteer for social welfare in the pristine Himalayan province of Himachal Pradesh