

Chinmay Talegaonkar

EDUCATION

UNIVERSITY OF CALIFORNIA SAN DIEGO

PH.D. IN ECE | 2022 - PRESENT

Advisor: Prof. Nicholas Antipa

3D vision, Graphics & Imaging

UNIVERSITY OF CALIFORNIA LOS ANGELES

MS IN ECE | 2019-2021

GPA: 4.0 / 4.0

Advisor: Prof. Achuta Kadambi

IIT BOMBAY

B.TECH. IN EE | 2015-2019

GPA: 9.07 / 10.0

Minor in Computer Science

TECHNICAL SKILLS

Programming Languages:

C & C++, Bash, Python, MATLAB, CUDA

Machine Learning Frameworks:

Pytorch, OpenCV, scikit-learn, numpy,
scipy, pandas

Development Tools:

Github, Jenkins, Google Cloud, Docker

RELEVANT COURSES

Deep Learning for 3D Data

Computer Graphics

Computational Imaging

Matrix Analysis

Stochastic Processes

Optimization Techniques

Probability and Random Processes

Data Structures and Algorithms

Operating Systems

Data Mining

AWARDS AND HONORS

- UCSD ECE Dept Fellowship 2022

- GuruKrupa Fellowship 2020

Fellowship for UCLA student researchers

- South East Asia Machine Learning
Summer School 2019

(100/1100 applicants selected)

CONTACT DETAILS

LinkedIn:// chinmay0301

Email:// chinmay0301@ucla.edu

Homepage:// chinmay0301.github.io

Phone:// 424.440.9607

Github:// chinmay0301,

chinmay0301ucsd

EXPERIENCE

INTRINSIC.AI | SENIOR DEEP LEARNING ENGINEER

May 2022 - Sept 2022 | Mountain View, CA

- Led the development of a novel HDR fusion algorithm, resulting in higher pose estimation accuracy for difficult lighting scenarios.
- Implemented a deep learning based feature extractor to improve stereo matching and point cloud generation from a multi-view camera setup.

AKASHA IMAGING | SENIOR DEEP LEARNING ENGINEER

May 2021 - May 2022 | Palo Alto, CA

Akasha Imaging was **acquired by Intrinsic.ai, an Alphabet Company** in May 2022

- Developed an E2E deep learning based multi-view pose estimation pipeline for automotive and manufacturing customers, with a reliability of > 99% and sub millimeter accuracy. This led to the company's first product order
- Devised an algorithm for training keypoint detection models for symmetrical objects.
- Developed a data export pipeline to generate real and synthetic data needed for training segmentation and keypoint models.
- Contributed to developing in-house infrastructure tools for ML Ops, CI/CD testing, pose evaluation frameworks and data collection setups.

NVIDIA | DEEP LEARNING SOFTWARE INTERN

June 2020 - Sept 2020 | Santa Clara, CA

- Developed CUDA kernels to optimize backpropagation in 2D and 3D convolution layers in popular CNN architectures
- Implemented a linearized thread launching algorithm resulting in over 30 % speedup for 3D convolutions with low channel counts

NVIDIA | AI/ML COMPUTE DEVTECH INTERN

May 2018 - July 2018 | Bangalore, India

- Developed CUDA kernels to optimize backpropagation and dynamic routing in capsule networks, resulting in a 2x speedup
- Parallelized end-to-end implementation of *DBscan* using *CUTLASS* and *thrust* libraries for **NVIDIA Rapids** platform

RESEARCH PROJECTS

NOVEL VIEW SYNTHESIS IN PRESENCE OF PHASE OPTICS

Sept 2022 - Present | Guide: Prof. Ravi Ramamoorthi

- Investigating effect of a phase optic (microlens array) on novel view synthesis using Neural Radiance Fields. Implemented NeRF and ray tracing through a microlens array from scratch. [code]

CAUSAL AND CONTROLLABLE GENERATIVE MODELING

Sept 2020 - March 2021 | Guide: Prof. Aditya Grover, UCLA CS

- Devised a semi-supervised, data efficient algorithm for latent space manipulation of pre-trained generative models. The method allows modifying the generated data based on a user-specified causal graph

PUBLICATIONS

[1] P. Chari, C. Talegaonkar, Y. Ba, and A. Kadambi. Visual physics: Discovering physical laws from videos. *CVPR Tutorial*, 2020.

[2] C. Talegaonkar, P. Khirwadkar, and A. Rajwade. Compressive phase retrieval under poisson noise. *ICIP*, 2019.

[3] C. Talegaonkar and A. Rajwade. Performance bounds for tractable poisson denoisers with principled parameter tuning. *GlobalSIP*, 2018.