

Chinmay Talegaonkar

🏠 Website | ✉ ctalegaonkar@ucsd.edu | 🔗 LinkedIn | 🐙 GitHub | 📄 Google Scholar

EDUCATION

University of California, San Diego <i>Ph.D. in Electrical and Computer Engineering</i> Advisor: Prof. Nicholas Antipa	San Diego, CA <i>Sept 2022 – Present</i> GPA: 4.0/4.0
University of California, Los Angeles <i>M.S. in Electrical and Computer Engineering</i> Advisor: Prof. Achuta Kadambi	Los Angeles, CA <i>2019 – 2021</i> GPA: 4.0/4.0
Indian Institute of Technology, Bombay <i>B.Tech. in Electrical Engineering</i> <i>Minor in Computer Science</i> Advisor: Prof. Ajit Rajwade	Mumbai, India <i>2015 – 2019</i> GPA: 9.07/10.0

SELECTED PUBLICATIONS

Repurposing Marigold for Zero-Shot Metric Depth Estimation via Defocus Blur Cues

Chinmay Talegaonkar, Nikhil G. Suresh, Zachary Novack, Yash Belhe, Priyanka Nagasamudra, Nicholas Antipa
NeurIPS, 2025 (*Spotlight*). [arXiv PrePrint](#) [🔗](#).

Volumetrically Consistent 3D Gaussian Rasterization

Chinmay Talegaonkar, Yash Belhe, Ravi Ramamoorthi, Nicholas Antipa
CVPR, 2025 (*Spotlight*). [Paper](#) [🔗](#) [Code](#) [🔗](#)

RnGCam: High-speed video from rolling and global shutter measurements

Kevin Tandi, Xiang Dai, **Chinmay Talegaonkar**, Gal Mishne, Nicholas Antipa
ICCV, 2025.

Pose Estimation of Buried Deep-Sea Objects using 3D Deep Learning Models

Chinmay Talegaonkar*, Jerry Yan*, Nicholas Antipa, Eric Terrill, Sophia Merrifield
OCEANS Conference and Expositions, 2024. [Paper](#) [🔗](#) [Code](#) [🔗](#)

Visual Physics: Discovering Physical Laws from Videos

Chinmay Talegaonkar*, Pradyumna Chari*, Yunhao Ba*, Achuta Kadambi
ICCP 2020 Poster, CVPR 2020 Tutorial. [arXiv PrePrint](#) [🔗](#)
Journal Version: *On learning mechanical laws of motion from video using neural networks*.
IEEE Access, 2023. [Paper](#) [🔗](#)

Compressive Phase Retrieval Under Poisson Noise

Chinmay Talegaonkar, Parthasarathi Khirwadkar, Ajit Rajwade
IEEE International Conference on Image Processing (ICIP) 2019. [Paper](#) [🔗](#)

WORK EXPERIENCE

Research Intern

Amazon Lab126

Sunnyvale, CA

June 2025 – Sept 2025

- Designed a novel data augmentation technique for indoor 3D point clouds, yielding a 3–4× improvement in mean F1 score. Applied this strategy to curate a large-scale labeled dataset of 120,000 houses, containing real and synthetic examples with diverse floor plans.
- Engineered a hybrid multiprocessing pipeline combining CPU multi-threading with GPU concurrency, delivering an 80× speedup in data generation and processing; also built a custom pipeline from scratch for training a multimodal language model with 3D point cloud inputs.
- Fine-tuned a multimodal architecture integrating a 0.5B parameter LLM (Qwen-2.5) and a 3D point cloud encoder for floor plan estimation, matching state-of-the-art methods in performance.

Research Intern

Qualcomm AI

San Diego, CA

June 2023 – Sept 2023

- Developed a memory-efficient generalizable NeRF-like method to create human avatars from monocular videos. Achieved comparable accuracy to existing methods. [Patent Link](#) [↗](#)
- Invented a point-based 3D scene representation for human modeling that reduces GPU memory usage by 10x and training time by 100x respectively.
- Engineered an end-to-end pipeline to estimate SMPL mesh, and segmentation masks from videos.

Senior Deep Learning Engineer

Intrinsic.ai

Mountain View, CA

May 2022 – Sept 2022

- 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.

Senior Deep Learning Engineer

Akasha Imaging - **acquired** by Intrinsic.ai (an Alphabet company) in May 2022.

Palo Alto, CA

May 2021 – May 2022

- Developed an end-to-end deep learning based multi-view pose estimation pipeline with more than 99% reliability and sub-millimeter accuracy. This led to the company's first product order.
- Engineered a synthetic data generation pipeline to generate training data for segmentation and keypoint estimation algorithms.
- Contributed to tools for ML Ops, CI/CD testing, pose evaluation frameworks, and data collection setups.

Deep Learning Software Intern

NVIDIA

Santa Clara, CA

June 2020 – Sept 2020

- Implemented a linearized thread launching algorithm to optimize CUDA kernels for backpropagation in 2D and 3D convolution layers in popular CNN architectures, resulting in 30% speedup.
- Enabled complex valued convolution kernels in *CUTLASS* achieving more than 90% compute resource utilization.

KEY SKILLS

Programming Languages: Python, C & C++, CUDA, Bash, MATLAB

Frameworks: Pytorch, OpenCV, numpy, mitsuba3, Slang.D, scikit-learn, scipy, pandas, blender,

Development Tools: Github, Google Cloud, Docker, Jenkins

TEACHING ASSISTANT

- | | |
|-----------------------------------|-------------------------|
| • Software Systems Lab | UCLA, Winter 2020 |
| • Reinforcement Learning | UCLA, Spring 2020 |
| • Introduction to Computer Vision | UCLA, Winter 2021 |
| • Computational Imaging | UCSD, Spring 2024, 2025 |

MENTORSHIP

- **Jerry Yan** (MS, UCSD → CS PhD at Purdue): Mentored on underwater pose estimation research, resulting in a conference paper at *OCEANS 2024* and a journal submission currently under review.
- **Nikhil G. Suresh** (MS, UCSD → Qualcomm): Supervised on real data collection for a monocular depth estimation project, resulting in a [paper](#) [↗](#) currently under review.