Anand Bhattad

ADDRESS

509 TTIC
6045 S Kenwood Ave
Chicago, Illinois 60637, USA

Voice: (217) 904-5911
E-mail: anandbhattad92@gmail.com
web: https://anandbhattad.github.io/

EDUCATION

University of Illinois, Urbana-Champaign (UIUC), USA

Ph.D., Computer Science — *Jan'19 - Aug 2023*
Advisor: David Forsyth
Thesis committee: David Forsyth (chair), Alyosha Efros, Bill Freeman, Derek Hoiem, Shenlong Wang and Svetlana Lazebnik

M.S., Computer Science — *Aug'17 - Dec'18*
M.S., Civil Engineering — *Aug'15 - Aug'17*

National Institute of Technology Karnataka (NITK) Surathkal, India

B.Tech., Civil Engineering — *July'11 - May'15*

RESEARCH EXPERIENCE

Toyota Technological Institute at Chicago, Chicago — *Sept'23 - present*
Research Assistant Professor

Allen Institute of Artificial Intelligence, Seattle/Champaign(remote) — *Feb'23 - April'23*
Research Intern with *Ani Kembhavi*

Intel ISL, Santa Clara/Champaign (remote) — *Feb'21 - Aug'21*
Research Intern with *Stephan R. Richter* in *Vladlen Koltun's* team.

NVIDIA ADLR, Santa Clara/Champaign (remote) — *May'20 - Dec'20*
Research Intern with *Andrew Tao and Bryan Catanzaro*

Fyusion Inc, San Francisco — *May'19 - Aug'19*
Research Intern with *Abhishek Kar and Rodrigo Ortiz Cayon*

Siemens Corporate Technology, Princeton — *May'17 - Aug'17*
Computer Vision & DL Intern with *Jan Ernst*

Computational Sensor Lab, Michigan State University — *May'14 - July'14*
Research Intern with *Prof. Nizar Lajnef*

Earthquake Engineering Research Center, IIIT Hyderabad — *Jun'13 - July'13*
Research Intern with *Prof. Ramacharla Pradeep Kumar*

CONFERENCE PAPERS

10. ***Shadows Don't Lie and Lines Can't Bend!* Generative Models don't know Projective Geometry...for now**
A. Sarkar*, H. Mai*, A. Mahapatra*, S. Lazebnik, D.A. Forsyth, **A. Bhattad**
CVPR 2024
9. **StyLitGAN: Image-based Relighting via Latent Control**
A. Bhattad, J. Soole, D. A. Forsyth
CVPR 2024
8. **StyleGAN Knows Normals, Depth, Albedo, and More**
A. Bhattad, D. McKee, D. Hoiem, D. A. Forsyth
NeurIPS 2023
7. **OBJect 3DIT: Language-guided 3D-aware Image Editing**
O. Michel, **A. Bhattad**, E. Vanderbilt, R. Krishna, A. Kembhavi, T. Gupta
NeurIPS 2023

6. **Improving Equivariance in State-of-the-Art Supervised Depth and Normal Predictors**
   Yuanyi Zhong, **A. Bhattad**, Y. Wang, D. A. Forsyth
   ICCV 2023

5. **Cut-and-Paste Object Insertion by Enabling Deep Image Prior for Reshading**
   A. Bhattad, D. A. Forsyth
   3DV 2022 (Spotlight Presentation)

4. **DIVeR: Real-time and Accurate Neural Radiance Fields with Deterministic Integration for Volume Rendering**
   L. Wu , J. Y. Lee, **A. Bhattad**, Y. Wang, D. A. Forsyth
   CVPR 2022 (Oral Presentation) **(Best Paper Finalist)**

3. **View Generalization for Single Image Textured 3D Models**
   A. Bhattad, A. Dundar, G. Liu, A. Tao, B. Catanzaro
   CVPR 2021

2. **Unrestricted Adversarial Perturbations via Semantic Manipulation**
   A. Bhattad*, M. J. Chong*, K. Liang, B. Li, D. A. Forsyth (* for equal contribution)
   ICLR 2020

1. **Improved Style Transfer with Calibrated Metrics**
   M. Yeh*, S. Tang*, **A. Bhattad**, C. Zou, D. A. Forsyth (* for equal contribution)
   WACV 2020

Workshop Papers

3. **MIMIC: Masked Image Modeling with Image Correspondences**
   K. Marathe, M. Bigverdi, N. A. Khan, T. Kundu, P. Howe, S. Ranjit, **A. Bhattad**, A. Kembhavi, L. Shapiro, R. Krishna
   CVPR-W 2024

2. **Big but Imperceptible Adversarial Perturbations via Semantic Manipulation**
   A. Bhattad*, M. J. Chong*, K. Liang, B. Li, D. A. Forsyth (* for equal contribution)
   CVPR-W 2019, ***Oral Presentation***

1. **Detecting Anomalous Faces with "No Peeking" Autoencoders**
   A. Bhattad, J. Rock, D. A. Forsyth
   CVPR-W, 2018, ***Oral Presentation***

Under Review

4. **Intrinsic LoRA: A Generalist Approach for Discovering Knowledge in Generative Models**
   X. Du, N. Kolkin, G. Shakhnarovich, **A. Bhattad**
   In Submission

3. **Videoshop: Localized Semantic Video Editing with Noise-Extrapolated Diffusion Inversion**
   X. Fan, **A. Bhattad***, R. Krishna*
   In Submission

2. **Intrinsic ControlNet: Zero-shot Object Compositing from Image Intrinsics**
   Z. Zhang, F. Fortier-Chouinard, M. Garon, **A. Bhattad**, JF. Lalonde
   In Submission

1. **UrbanIR: Large-Scale Urban Scene Inverse Rendering from a Single Video**
   Z. Lin, B. Liu, Y. Chen, D.A. Forsyth, J. Huang, **A. Bhattad**, S. Wang
   In Submission

Technical Reports

3. **Blocks2World: Controlling Realistic Scenes with Editable Primitives**
   V. Vavilala, S. Jain, R. Vasanth, **A. Bhattad**, D.A. Forsyth
   Technical Report, 2023

2. **Make It So: Steering StyleGAN for Any Image Inversion and Editing**
   A. Bhattad, V. Shah, D. Hoiem, D. A. Forsyth
   Technical Report, 2023

1. **SIRfyN: Single Image Relighting from your Neighbors**
   D. A. Forsyth, **A. Bhattad**, P. Asthana, Y. Zhong, Y. Wang
   Technical Report, 2021

Students Mentoring

- Joshua Ahn (BS-MS; 2024-present) | Project on NeRF without Positional Encoding
- Xiao Zhang (PhD; 2023-present) | Project on Latent Intrinsics
- Seemandhar Jain (MS; 2023-present) | Project on Latent Intrinsics
- Xiang Fan (PhD; 2023-present) | Project on VIideo Generative Models
- Xiaodan Du (PhD; 2023-present) | Project on Knowledge in Generative Models
- Ayush Sarkar (PhD; 2023-present) | Paper at CVPR 2024 (see CP#10)
- Hanlin Mai (PhD; 2023-present) | Paper at CVPR 2024 (see CP#10)
- Amitabh Mahapatra (BS; 2023-present) | Paper at CVPR 2024 (see CP#10)
- James Soole (MS; 2023) | Paper at CVPR 2024 (see CP#9)
- Oscar Michel (Pre-doc at AI2; 2023) | Paper at NeurIPS 2023 (see CP#7)
- Feiran Wang (MEngg; 2023) | Project on NeRF + Illumination Physics
- Liwen Wu (BS-MS; 2021-2022) | Paper at CVPR 2022 (see CP#4) | Next: PhD Student at UCSD
- Brian Chen (BS; 2020-2022) | REU at CMU's Robotics Institute
- Kexuan (Klaus) Zou (MS; 2019-2020) | Next: Software Engineer at NVIDIA
- Anchu Zhu (BS; 2018-2019) | Next: MS in CS at USC

Teaching Experience

Past Meets Present: A Tale of Two Visions, TTIC; *Course Instructor* *Spring 2024*

- Designed and developed a new course on Computer Vision, combining historical and modern approaches
- Taught a class of 20+ students from TTIC and UChicago, fostering an engaging learning environment

Computer Science, UIUC; *Graduate Teaching Assistant* *Jan 2016 – Aug 2023*

- Applied Machine Learning (CS498 AML), Fall 2018
  - Designed and implemented Kaggle competitions to enhance student learning and engagement
- Data Structures (CS 225), Spring 2017
  - Developed assignments, exams, and labs to assess and reinforce student understanding
- Introduction to Computing (CS 101), Spring 2016 Fall 2016
  - Recognized as an **Excellent TA** for effective teaching and student support

Services & Leadership

Lead Organizer, CVPR-W on "CV 20/20: A Retrospective Vision" June 2024

- Leading the organization of a CVPR workshop focusing on learning from the past.
- Developing three panel sessions with nine distinguished speakers across various specialties.

Lead Organizer, CVPR-W on "Big Models Vs Scholars: How Should Academics Adapt?" June 2023

- Led the organization of a CVPR workshop focusing on the implications of Big vision models for the academic CV community.
- Developed three panel sessions with nine distinguished speakers across various specialties, encouraging a subsequent workshop on a related themeQVCV at ICCV2023.
- Attracted over 500 participants and achieved more than 5,000 downloads of the presentations.

Reviewer, Computer Vision Conferences Nov 2018-Present

- Serving as reviewer for CVPR, NeurIPS, ECCV and ICCV conferences and workshops.
- **Outstanding Reviewer** for ICCV 2023
- **Outstanding Emergency Reviewer** for CVPR 2021

Lead Organizer, UIUC Vision Workshop at Allerton April 2023

- Organized a full-day workshop for 50+ graduate students and faculties
- Responsible for ideation to organize full program

Organizer, External Speaker Series and Vision Lunch Jan 2021-May2023

- Hosted and initiated the external speaker series, inviting researchers outside of UIUC for technical talks, now run regularly by current students.
- Organized computer vision reading and presentation group in the CS department of UIUC

Program Committee Jun 2019

- Adversarial Machine Learning in Real-World Computer Vision Systems, CVPR 2019 Workshop
- Security and Privacy in Machine Learning, ICML 2019 Workshop

Organizer, Vision Coffee, Urbana-Champaign *May'18 - Aug'18*

- Vision and Deep Learning paper/topic weekly discussion group
- Finalized agenda/topic, location and initiated discussions

Co-Founder, SchoolEngg *Apr'13 - May'15*

- Forum for high-school students; providing firsthand knowledge of all engineering disciplines
- Currently, renamed as *PrepLift*, an education counselling start-up in India