

Ankan Bhunia

[✉ ankan.bhunia@ed.ac.uk](mailto:ankan.bhunia@ed.ac.uk)

[🌐 ankanbhunia.github.io](https://ankanbhunia.github.io)

[G Google Scholar](#)

[GH github.com/ankanbhunia](https://github.com/ankanbhunia)

Research Interests

My research interests span Computer Vision and Machine Learning, particularly 3D vision and embodied object-centric perception. I am also interested in related areas such as robotics and the development of agentic world models.

Education

University of Edinburgh

PhD in School of Informatics (Visual Computing Group)
Supervisor: Dr. Hakan Bilen, Dr. Changjian Li

Edinburgh, UK

May 2023 - Sept 2026 (expected)

Jadavpur University

B.E Electrical Engineering

Kolkata, India

2016 - 2020

Experience

MBZUAI

Research Assistant at Computer Vision Lab

Advisor: Dr. Fahad Shahbaz Khan, Dr. Salman Khan

Research Direction: Image generative models

Description: Published several works in 1xCVPR, 2xICCV, 1xECCV.

Abu Dhabi, UAE

Nov 2020 - Apr 2023

University of Manitoba

Research Intern under Mitacs Globalink Internship program

Title: "Flexible deep learning models in computer vision"

Advisor: Dr. Yang Wang, Associate Professor

Description: Worked on one-shot scene-specific crowd counting that adapts to specific scene.

Manitoba, Canada

May 2019 - Aug 2019

Robert Bosch

Research Intern at Computer Vision Lab, RTC Department

Title: "Synthetic to Photo-realistic Image Generation"

Advisor: Dr. Amit Arvind Kale, Principal Senior Expert

Description: Worked on various domain adaptation techniques and methods.

Bangalore, India

May 2018 - July 2018

Indian Institute of Technology (IIT) Roorkee

Research Intern

Advisor: Dr. Partha Pratim Roy

Research Direction: Machine learning, computer vision, pattern & recognition, document analysis

Collaborated with: Dr. Umapada Pal, CVPR Unit, ISI-Kolkata

Roorkee, India

May 2017 - June 2020

Selected Research

Interactive Anomaly Detection for Articulated Objects via Motion Anticipation | *NeurIPS 2025*

Ankan Bhunia, Changjian Li, Hakan Bilen

[\[paper\]](#) / [\[webpage\]](#) / [\[openreview\]](#)

Odd-One-Out: Anomaly Detection by Comparing with Neighbors | *CVPR 2025*

Ankan Bhunia, Changjian Li, Hakan Bilen

[\[paper\]](#) / [\[code\]](#) / [\[dataset\]](#)

Looking 3D: Anomaly Detection with 2D-3D Alignment | *CVPR 2024*

Ankan Bhunia, Changjian Li, Hakan Bilen

[\[paper\]](#) / [\[code\]](#) / [\[dataset\]](#) / [\[webpage\]](#)

Person Image Synthesis via Denoising Diffusion Model | *CVPR 2023*

Ankan Bhunia, Salman Khan, Hisham Cholakkal, Rao Anwer, Jorma Laaksonen, Mubarak Shah, Fahad Shahbaz Khan

[\[paper\]](#) / [\[code\]](#) (500+ stars, 50+ forks) / [\[demo\]](#) / [\[webpage\]](#)

Generative Multiplane Neural Radiance for 3D-Aware Image Generation | *ICCV 2023*

Amandeep Kumar, **Ankan Bhunia**, Sanath Narayan, Hisham Cholakkal, Rao Anwer, Jorma Laaksonen, Salman Khan, Ming-Hsuan Yang, Fahad Shahbaz Khan

[\[paper\]](#) / [\[code\]](#)

Cross-modulated Few-shot Image Generation for Colorectal Tissue Classification | *MICCAI 2023*

Amandeep Kumar, **Ankan Bhunia**, Sanath Narayan, Hisham Cholakkal, Rao Anwer, Jorma Laaksonen, Fahad Shahbaz Khan

[\[paper\]](#) / [\[code\]](#)

DoodleFormer: Creative Sketch Drawing with Transformers | *ECCV 2022*

Ankan Bhunia, Salman Khan, Hisham Cholakkal, Rao Anwer, Fahad Shahbaz Khan, Jorma Laaksonen, Michael Felsberg

[\[paper\]](#) / [\[code\]](#) / [\[webpage\]](#)

Handwriting Transformers | *ICCV 2021*

Ankan Bhunia, Salman Khan, Hisham Cholakkal, Rao Muhammad Anwer, Fahad Shahbaz Khan, Mubarak Shah

[\[paper\]](#) / [\[code\]](#) (200+ stars, 50+ forks) / [\[demo\]](#) / [\[webpage\]](#) / [\[bloomberg article\]](#) / [\[patent\]](#)

Handwriting Recognition in Low-resource Scripts using Adversarial Learning | *CVPR 2019*

Ayan Bhunia, Abhirup Das, **Ankan Bhunia**, Sairaj Kishore, Partha Roy

[\[paper\]](#)

Improving Document Binarization via Adversarial Noise-Texture Augmentation | *ICIP 2019*

Ankan Bhunia, Ayan Bhunia, Aneeshan Sain, Partha Pratim Roy

[\[paper\]](#) / [\[code\]](#)

A Deep One-Shot Network for Query-based Logo Retrieval | *Pattern Recognition (2019)*

Ayan Bhunia, **Ankan Bhunia**, Shuvrozit Ghose, Partha Roy, Umapada Pal

[\[paper\]](#)

Script Identification in Natural Scene Image and Video Frames using an Attention-based ... | *Pattern Recognition (2019)*

Ankan Bhunia*, Aishik Konwer*, Abir Bhowmik, Ayan Bhunia, Partha Roy

[\[paper\]](#) / [\[code\]](#)

Word Level Font-to-Font Image Translation using Convolutional Recurrent Generative Adversarial Networks | *ICPR 2018*

Ankan Bhunia, Ayan Bhunia, Prithaj Banerjee, Aishik Konwer, Abir Bhowmik, Partha Roy, Umapada Pal

[\[paper\]](#)

Indic Handwritten Script Identification Using Offline-Online Multi-modal Deep Network | *Information Fusion (2019)*

Ayan Bhunia, Subham Mukherjee, Aneeshan Sain, Abir Bhowmik, **Ankan Bhunia**, Partha Roy, Umapada Pal

[\[paper\]](#)

Signature Verification Approach using Fusion of Hybrid Texture Features | *Neural Computing and Applications (2019)*

Ankan Bhunia, Alireza Alaei, Partha Roy

[\[paper\]](#)

Staff Line Removal using Generative Adversarial Networks | *ICPR 2018*

Aishik Konwer, Ayan Bhunia, Abir Bhowmik, **Ankan Bhunia**, Prithaj Banerjee, Partha Pratim Roy, Umapada Pal

[\[paper\]](#)

Handwriting Trajectory Recovery using End-to-End Deep Encoder-Decoder Network | *ICPR 2018*

Ayan Bhunia, Abir Bhowmik, **Ankan Bhunia**, Aishik Konwer, Prithaj Banerjee, Partha Pratim Roy, Umapada Pal

[\[paper\]](#)

Selected Patents

System and Method for Handwriting Generation | 2024

Amandeep Kumar, **Ankan Bhunia**, Hisham Cholakkal, Sanath, Narayan, Rao Anwer, Fahad Shahbaz Khan
US20240161360A1

System and Method for Handwriting Generation | 2023

Ankan Bhunia, Salman Khan, Hisham Cholakkal, Rao Anwer, Fahad Shahbaz Khan
US11756244B1

Technical Skills

Programming Languages: Python, C, MATLAB, HTML/CSS

Deep Learning Frameworks: PyTorch, Tensorflow, Keras

Developer Tools: Git, Docker, Google Cloud Platform, VS Code, PyCharm

Miscellaneous: Blender, Pybullet, OpenCV, OpenAI gym, Numpy, Matplotlib, Pandas, Scikit-Learn

Notable Details

I have over **900 citations** on Google Scholar with ***h*-index 12**.

I have published in A* computer vision conferences (i.e. **CVPR, ICCV, ECCV, NeurIPS**).

I have served as a reviewer for **TPAMI, ICCV, ECCV, CVPR, WACV**.

Last updated: November 20, 2025