

Anand Mishra, PhD

CSE-201

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<https://anandmishra22.github.io>

Employment

- **Indian Institute of Technology** Jodhpur, India
Assistant Professor July 2019 - Present
- **Indian Institute of Science** Bangalore, India
Research Associate (postdoctoral fellow) August 2017 - July 2019
Host: Dr. Partha Pratim Talukdar
Research focus: Knowledge-aware Computer Vision
- **International Institute of Information Technology** Hyderabad, India
Research fellow (postdoctoral fellow) January 2017 - July 2017
Host: Prof. C. V. Jawahar
Research focus: Intelligent Image Matching

Education

- **International Institute of Information Technology** Hyderabad, India
PhD, Computer Science and Engineering (CGPA: 8.6) August 2009 - November 2016
 - **Thesis:** Understanding Text in Scene Images
 - **Advisers:** Prof. C. V. Jawahar (IIIT-H) and Dr. Karteek Alahari (Inria, France)
 - **PhD committee:** Prof. S. Chaudhury (IIT-D/CEERI Pilani), Dr. A. Sharma (IIIT-H), Dr. P. Chaudhuri (IIT-B) and advisers
- **Birla Institute of Technology Mesra** Ranchi, India
M.Tech., Computer Science (CGPA: 8.2) 2006-2008
 - **Thesis:** Image Compression using Weighted Finite Automata
 - **Adviser:** Prof. G. Sahoo
 - **Fellowship:** MHRD GATE Fellowship
- **Guru Ghasidas University (now a central univ.)** Bilaspur, India
M.Sc., Computer Science (Percentage: 68.8) 2004-2006
- **Guru Ghasidas University (now a central univ.)** Bilaspur, India
B.Sc., with Mathematics (Percentage: 72.3) 2001-2004
- **Govt. boys school (MPBSE)** Jashpur Nagar, India
12th. with Physics, Chemistry, Mathematics (Percentage: 76.7) 2001
- **Govt. model school (MPBSE)** Jashpur Nagar, India
10th. (Percentage: 79.0) 1999

Awards/Fellowships/Recognitions

- One of the Outstanding Reviewers at CVPR 2023
- One of the Outstanding Reviewers at ICCV 2021
- IIT Jodhpur Teaching Excellence Award 2020
- Google Gift to support travel for AAAI 2019 (Honolulu)
- First runner-up for the doctoral dissertation award at XRCI Open 2015
- ACM-India Travel Grant to attend ACM-IRISS 2015 (Goa)
- XRCI Travel Grant to attend Xerox Open 2015 (Bengaluru)
- IEEE Student Travel Grant to attend ICCV 2013 (Sydney)
- Microsoft Research India PhD fellowship 2012 Award (One among only four PhD students in the country in year 2012)
- Google India Travel Grant to attend CVPR 2012 (Providence)
- Microsoft Research India Travel Grant to attend ICDAR 2011 (Beijing)
- IIIT Institute Fellowship (2009 – 2012)
- GATE Scholarship (2006 – 2008)

Grants

- Principal Investigator, HealthcareNLP funded project on “Table detection and Layout Analysis on Clinical Documents”. INR 13,19,914 (2023 - 2024)
- Principal Investigator, Gift Grant from Accenture LLC for supporting project on “Analogy Based Visual Relationship Interpretation from Cross-Task Videos and Standard Operating Procedures”. USD 20,000 (2022 - 2023)
- Principal Investigator, MeITy, Govt of India funded project under NLTm-Bhasini on “OCR and Application in Indian Languages”. INR 1,83,90,000 (Total outlay: 14 Cr to consortium) (2022 - 2024)
- Principal Investigator, SERB, Govt of India funded project under Start-up Research Grant on “Multimodal Query-guided Natural Scene Retrieval”. INR 29,64,110 (2021 - 2023)
- Principal Investigator, IITJ Seed Grant. INR 16 Lakh (2022 - 2023)
- Principal Investigator, Microsoft funded project under Microsoft Academic Partnership Grant (MAPG) on “Inference and Reasoning over Web-Scale Multimodal Knowledge Graph”. INR 14,16,000 (2021 - 2022)
- Principal Investigator, HealthcareNLP funded project on “Knowledge Discovery from Images Containing Text and its application to Audio-Visual Dialogue”. USD 20,000 (2020 - 2021)
- Co-Principal Investigator, “Part Detection and Knowledge-aided Zero-shot Part Classification”. INR 32 Lakhs (2019 - 2020)

Publications

Note– Total citations: **1726**, *h-index*: **14**, *i10-index*: **14**. (Source: Google Scholar, May 27, 2023)

Journals:

1. Aditay Tripathi, Rajath R. Dani, **Anand Mishra**, Anirban Chakraborty, *Multimodal Query-guided Object Localization*, *Multimedia Tools and Applications*, 2023 (Accepted)
2. **Anand Mishra**, *DHFML: Deep Heterogeneous Feature Metric Learning for Matching Photo-Cartoon Pairs*, *International Journal of Multimedia Retrieval*, pages 1–8, 2018,
3. **Anand Mishra**, Karteek Alahari, C. V. Jawahar, *Unsupervised refinement of color and stroke features for text binarization*, *International Journal on Document Analysis and Recognition*, Volume 20(2), pages 105–121, 2017
4. **Anand Mishra**, Karteek Alahari, C. V. Jawahar, *Enhancing Energy Minimization Framework for Scene Text Recognition with Top-Down Cues*, *Computer Vision and Image Understanding*, volume 145, pages 30–42, 2016

Conferences/Workshops:

1. Abhirama Subramanyam Penamakuri, Manish Gupta, Mithun Das Gupta, **Anand Mishra**, *Answer Mining from a Pool of Images: Towards Retrieval-Based Visual Question Answering*, *IJCAI 2023*.
2. Shreya Shukla, Prajwal Gatti, Yogesh Kumar, Vikash Yadav, **Anand Mishra**, *Towards Making Flowchart Images Machine Interpretable*, *ICDAR 2023*.
3. Yogesh Kumar, **Anand Mishra**, *Few-Shot Referring Relationships in Videos*, *CVPR 2023*.
4. Aditay Tripathi, **Anand Mishra**, Anirban Chakraborty, *Grounding Scene Graphs on Natural Images via Visio-Lingual Message Passing*, *WACV 2023*.
5. Prajwal Gatti, **Anand Mishra**, Manish Gupta, Mithun Das Gupta, *VISTOT: Vision-Augmented Table-to-Text Generation*, *EMNLP 2022*.
6. Prajwal Gatti, Abhirama Subramanyam Penamakuri, Revant Teotia, **Anand Mishra**, Shubhashis Sengupta, Roshni Ramnani, *COFAR: Commonsense and Factual Reasoning in Image Search*, *AAACL-IJCNLP 2022*.
7. Nakul Sharma, Abhirama Subramanyam Penamakuri, Anand Mishra, *Contrastive Multi-View Textual-Visual Encoding: Towards One Hundred Thousand-Scale One-Shot Logo Identification*, *ICVGIP 2022*.
8. Revant Teotia*, Vaibhav Mishra*, Mayank Maheshwari*, **Anand Mishra**, *Few-shot Visual Relationship Co-localization*, *ICCV 2021* (*: equal contribution).
9. Aditay Tripathi, Rajath Dani, **Anand Mishra**, Anirban Chakraborty, *Sketch-guided Object Localization in Natural Images*, **ECCV 2020** (spotlight)
10. Ajeet Kumar Singh, **Anand Mishra**, Shashank Shekhar, Anirban Chakraborty, *From String to Things: Knowledge-enabled VQA Model that can read and reason*, **ICCV 2019** (oral)
11. **Anand Mishra**, Ajeet Kumar Singh, Shashank Shekhar*, Anirban Chakraborty, *OCR-VQA: Visual Question Answering by Reading Text in Images*, **ICDAR 2019**

12. Sanket Shah*, **Anand Mishra***, Naganand Y., Partha Pratim Talukdar, *KVQA: Knowledge-aware Visual Question Answering*, **AAAI 2019** (*: equal contribution).
13. **Anand Mishra** and Ajeet K. Singh, *Deep Embedding using Bayesian Risk Minimization with Application to Sketch Recognition*, ACCV 2018
14. Ashutosh Mishra, Shyam N. Rai, **Anand Mishra**, C. V. Jawahar, *IIIT-CFW: A benchmark database for Cartoon Faces in the Wild*, ECCVW 2016 (oral)
15. Ajeet K. Singh, **Anand Mishra**, Pranav Dabara, C. V. Jawahar, *A Simple and Effective Solution for Script Identification in the Wild*, DAS 2016
16. Swetha Sirnam, **Anand Mishra**, G. M. Hegde, C. V. Jawahar, *Efficient Object Annotation for Surveillance and Automotive Applications*, WACV Workshop 2016.
17. Udit Roy, **Anand Mishra**, Karteek Alahari, C. V. Jawahar, *Scene Text Recognition and Retrieval for Large Lexicons*, ACCV 2014.
18. **Anand Mishra**, Karteek Alahari, C. V. Jawahar, *Image Retrieval using Textual cues*, **ICCV 2013**.
19. Vibhor Goel, **Anand Mishra**, Karteek Alahari, C. V. Jawahar, *Whole is Greater than Sum of Parts: Recognizing Scene Text Words*, ICDAR 2013.
20. Vijay Kumar, Amit Bansal, Gautom Hari Tulsian, **Anand Mishra**, Anoop Namboodari, C. V. Jawahar, *Sparse Document Image Coding for Restoration*, ICDAR 2013.
21. **Anand Mishra**, Naveen T.S., Viresh Ranjan, C. V. Jawahar, *Automatic Localization and Correction of Line Segmentation Errors*, DAR 2012 (Oral).
22. Deepan Gupta*, Vaidehi Chhajjer*, **Anand Mishra**, C. V. Jawahar, *A Non-local MRF model for Heritage Architectural Image Completion*, ICVGIP 2012 (*: equal contribution).
23. **Anand Mishra**, Karteek Alahari, C. V. Jawahar, *Scene Text Recognition using Higher Order Language Priors*, BMVC 2012 (Oral).
24. **Anand Mishra**, Karteek Alahari, C. V. Jawahar, *Top-down and Bottom-up cues for Scene Text Recognition*, **CVPR 2012**.
25. **Anand Mishra**, Karteek Alahari, C. V. Jawahar, *An MRF Model for Binarization of Natural Scene Texts*, ICDAR 2011 (Oral).
26. Dheeraj Mundhra, **Anand Mishra**, C. V. Jawahar, *Automatic Localization of Page Segmentation Errors*, J-MOCR-AND 2011 (Oral).

Invited Talks

- ACM-India ARCS 2023, Bhopal (Feb. 2023)
- Search Technology Centre India (STCI), Microsoft (March 2022)
- WADLA, IIIT Sri City (virtual) (Feb. 2022)
- ICMI Pre-Conference Workshop 2022, IIIT Bangalore, (virtual) (Feb. 2022)
- Vision India, ICVGIP 2020, IIT Jodhpur (virtual) (December 2020)

- SPCOM 2020, IISc Bangalore (virtual) (July 2020)
- Department of Computer Science and Engineering, IIT Guwahati (June 2019)
- IIIT Bangalore (March 2019)
- BLIPAR, Bengaluru (May 2017)
- Visual Learning and Intelligence lab, department of CSE, IIT-Hyderabad, India (September 2015)
- ACM-IRISS 2015, Goa, India (February 2015)
- XRCI Open 2015, Bengaluru, India (January 2015)
- Amazon-ML group, Bengaluru, India (December 2014)
- Mysore Workshop on Machine Learning - 2012

Students

PhD:

1. Abhirama P. (2019 - Present)
2. Neelu Verma (MTech-PhD) (2019-Present)
3. Yogesh Kumar (MTech-PhD) (2020-Present)
4. Gyan Prabhat (2021-Present)

MTech (Only full-time):

1. Dhriti P. Paul (2022-2023)
2. Deepti Gupta (2022-2023)
3. Gaurav Pilankar (2021-2022)
4. Rahul Kumar Chaudhary (2021-2022)
- Jointly with Dr. G. Bhatnagar
5. Stuti Pathak (2021-2022)
6. Rati Kumari (2021-2022)
7. Ambikesh Kumar Singh (2021-2022)
8. Pratik Somwanshi (2020-2021)
- Jointly with Dr. G. Bhatnagar
9. Megha Kumari (2020-2021)
10. Kena Hemmani (2020-2021)
- Jointly with Dr. Suril Shah

Undergraduate:

1. Vaibhav Mishra (2020-2022)
2. Mayank Maheswari (2020-2022)
3. Shreya Shukla (2021 - Present)
4. Nakul Sharma (2021 - Present)
5. Abu Shahid (2021 - Present)

**Research Assistant/Long-tenure Intern:
At IIT Jodhpur:**

1. Prajwal Gatti (2021-Present)
2. Revant Teotia (2020-2021)

At IISc Bangalore:

1. Rajath D. Dani (2020-2022, co-advisor: Dr. Anirban)
2. Shashank Shekhar (2018-2019, co-advisor: Dr. Anirban)
3. Anjali Shenoy (2018-2019)

At IIIT Sri City:

1. Ashutosh Sharma (2015-2016, co-advisor: Prof. Jawahar)
2. Shyam N Rai (2015-2016, co-advisor: Prof. Jawahar)

At IIIT Hyderabad:

1. Vibhor Goel (2013-2014, co-advisor: Prof. Jawahar)
2. Pranab Dabral (2013-2014, co-advisor: Prof. Jawahar)
3. Dheeraj Mundhara (2011-2011, co-advisor: Prof. Jawahar)

Teaching Experience: Recently Taught Courses

- CSL7620: Machine Learning (Fractal-3) (Spring'20/21/22/23)
- CSL7360: Computer Vision (Spring'23)
- CSL2040: Maths for Computing (AY 20-21–Tri-3/Monsoon'21/22)
- CSL7410: Graph Theory and Application (AY 20-21–Tri-1, Spring'22)
- CS222: Theory of Computation (Spring'20)
- CS212: Object-oriented Design and Analysis (Monsoon'19)
- UE101: Algorithms and Programming (Monsoon'18)
 - Co-taught at Indian Institute of Science with Dr. Sathish Govindrajan and Dr. Viraj Kumar.

Professional service

- Co-Convenor: NCVPRIPG'23.
- Workshop co-chair: ICFHR'22.
- Co-organizer: Workshop on Knowledge Bases and Multiple Modalities (KBMM) at Automated Knowledge Base Construction (AKBC) 2019/2020.
- Reviewer: ICLR'23, ECCV'20/22, CVPR'20/22/23, AAAI'20/21/22, ICCV'19/21/23, IJCAI'19/20, ICDAR'19, IEEE TPAMI, IJCV, IEEE TKDD, CVIU, IJDAR, Pattern Recognition.
- Program Coordinator: Executive MTech in AI 2019 batch, IIT Jodhpur.

References

Available on request.

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