Dr. Koteswar Rao Jerripothula, Associate Professor, EE Dept., IIT Kanpur

CONTACT

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RESEARCH INTERESTS

- *Computer Vision & Image Processing*;
- *Multimedia Computing & Systems*;
- *Artificial Intelligence & Machine Learning*;
- *Medical Imaging & Informatics*

EXPERIENCE

IIT Kanpur, India.

- *Associate Professor, EE Department, July 2025 - Present*
- *Assistant Professor (Grade-I), EE Department, Jan. 2024 - June 2025*

IIIT-Delhi, India.

- *Adjunct Faculty, CSE Department, July 2025 - Present*
- *Assistant Professor (Tenure-track), CSE Department, Feb. 2020 - Jan. 2024*

Advanced Digital Sciences Center (ADSC), Singapore.

- *Junior Research Assistant, Visual Modeling & Analytics, July 2016 - Nov. 2016*

Lenskart Solutions Pvt. Ltd., India.

- *Software Developer, TechOps Team, June 2012 - July 2013*

EDUCATION

Nanyang Technological University (NTU), Singapore, Aug. 2013 - Aug. 2017

- *PhD, Interdisciplinary Graduate Programme*
  - *Advisors*: Jianfei Cai and Junsong Yuan
  - *Thesis*: Co-saliency Based Visual Object Co-segmentation & Co-localization
  - *Novel Contributions*: (i) Geometric Mean Saliency; (ii) Saliency Co-fusion; (iii) Co-saliency Activated Tracklet Selection; (iv) Object Co-skeletonization.

IIT Roorkee, India, Aug. 2008 - May 2012

- *BTech, Department of Electrical Engineering*
  - *Advisor*: Maheshwari, R. P.
  - *Thesis*: Image Segmentation using Advanced Fuzzy c-means Algorithm
  - *FYP Grade*: A+ (topmost grade)

RESEARCH SNAPSHOT (AS OF FEB'26)

Aspect	Outcome
Top-tier (A*/A) Conference Papers	7 (incl. 3 CVPR/ICCV/ECCV) [journal-equivalent‡]
Reputed (Q1/Q2) Journal Articles	7 (incl. 6 IEEE Transactions)
Total Publications	30 (incl. 1 US patent & 1 invited paper)
Total Citations	650+ (Google Scholar) and 500+ (Scopus)
h-index	14 (Google Scholar) and 12 (Scopus)
PhD Thesis Supervision	7 (1 thesis submitted; 3 A*/A papers)
Master's Thesis Supervision	10 (4 completed; 1 A*/A paper)
Research Funding Secured	> INR 2 Cr across 7 projects (incl. PM ECRG)

‡In the AI/Vision domain, CORE A*/A (description link) conference proceedings are highly prestigious and serve as a primary mode of research dissemination. They are often treated as journal-equivalent.

TOP-TIER (A*/A) **CONFERENCE PAPERS** (JOURNAL-EQUIVALENT)

[A1] K. R. Jerripothula, J. Cai, and J. Yuan, "CATS: Co-saliency Activated Tracklet Selection for Video Co-localization," *European Conference on Computer Vision (**ECCV**)*, Springer, 2016. [CORE A*] [50+ Citations]

[A2] K. R. Jerripothula, J. Cai, J. Lu, and J. Yuan, "Object Co-skeletonization with Co-segmentation," *IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**)*, 2017. [CORE A*] [50+ Citations]

[A3] K. R. Jerripothula and P. Mukherjee, "ASOC: Adaptive Self-aware Object Co-localization," *IEEE International Conference on Multimedia and Expo (ICME)*, 2021. [CORE A]

[A4] S. Jain† and K. R. Jerripothula, "Federated Learning for Commercial Image Sources," *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2023. [CORE A]

[A5] S. Yadav† and K. R. Jerripothula, "FCCNs: Fully Complex-valued Convolutional Networks using Complex-valued Color Model and Loss Function," *IEEE International Conference on Computer Vision (**ICCV**)*, 2023. [CORE A*]

[A6] A. Gupta†, K. R. Jerripothula, and T. Tillo, "CIRCOD: Co-saliency Inspired Referring Camouflaged Object Discovery," *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2025. [CORE A]

[A7] S. Yadav†, A. Gupta†, and K. R. Jerripothula, "SAMWave: Adapting Segment Anything Model to Difficult Tasks," *36th British Machine Vision Conference (BMVC)*, 2025. [CORE A] (Oral)

REPUTED (Q1/Q2) **JOURNAL ARTICLES**

[J1] K. R. Jerripothula, J. Cai, and J. Yuan, "Image Co-segmentation via Saliency Co-fusion," ***IEEE Transactions** on Multimedia (TMM)*, 2016. [JCR Q1; IF: 9.7] [150+ Citations]

[J2] K. R. Jerripothula, J. Cai, and J. Yuan, "Quality-guided Fusion-based Co-saliency Estimation for Image Co-segmentation and Co-localization," ***IEEE Transactions** on Multimedia (TMM)*, 2018. [JCR Q1; IF: 9.7] [50+ Citations]

[J3] K. R. Jerripothula, J. Cai, and J. Yuan, "Efficient Video Object Co-localization with Co-saliency Activated Tracklets," ***IEEE Transactions** on Circuits and Systems for Video Technology (TCSVT)*, 2019. [JCR Q1; IF: 11.1] [25+ Citations]

[J4] K. R. Jerripothula, A. Rai†, K. Garg†, and Y. S. Rautela†, "Feature-level Rating System using Customer Reviews and Review Votes," ***IEEE Transactions** on Computational Social Systems (TCSS)*, 2020. [JCR Q1; IF: 4.9] [25+ Citations]

[J5] K. R. Jerripothula, J. Cai, J. Lu, and J. Yuan, "Image Co-skeletonization via Co-segmentation," ***IEEE Transactions** on Image Processing (TIP)*, 2021. [JCR Q1; IF: 13.7]

[J6] K. R. Jerripothula, P. Mukherjee, J. Cai, S. Lu, and J. Yuan, "AppFuse: An Appearance Fusion Framework for Saliency Cues," ***IEEE Transactions** on Circuits and Systems for Video Technology (TCSVT)*, 2022. [JCR Q1; IF: 11.1]

[J7] P. Mukherjee, S. Mandal, K. R. Jerripothula, V. Maharshi, and K. Katara, "Multi-Fish Tracking with Underwater Image Enhancement by Deep Network in Marine Ecosystems," *Signal Processing: Image Communication*, Elsevier, 2025. [JCR Q2; IF: 2.7]

† *indicates a student under my supervision.*
Sources of venue reputation metrics: WoS Journal Info, CORE Rankings & ConferenceRanks.com

Additional Int'l **CONFERENCE PAPERS**

[C01] K. R. Jerripothula, J. Cai, F. Meng, and J. Yuan, "Automatic Image Co-segmentation using Geometric Mean Saliency," 21^{st} *IEEE International Conference on Image Processing (ICIP)*, France, 2014. [CORE B] [25+ Citations] (Top 10% Paper)

[C02] K. R. Jerripothula, J. Cai, and J. Yuan, "Group Saliency Propagation for Large Scale and Quick Image Co-segmentation," 22^{nd} *IEEE International Conference on Image Processing (ICIP)*, Canada, 2015. [CORE B] (Oral)

[C03] K. R. Jerripothula, J. Cai, and J. Yuan, "QCCE: Quality Constrained Co-saliency Estimation for Common Object Detection," 30^{th} *IEEE International Conference on Visual Communications and Image Processing (VCIP)*, Singapore, 2015. [ERA B] (Oral)

[C04] D. Goyal†, K. R. Jerripothula, and A. Mittal, "Detection of Gait Abnormalities caused by Neurological Disorders," 22^{nd} *IEEE International Workshop on Multimedia Signal Processing (MMSP)*, Finland, 2020. [ERA B]

[C05] H. Chhabra† and K. R. Jerripothula, "Comprehensive Saliency Fusion for Object Co-segmentation," 23^{rd} *IEEE International Symposium on Multimedia (ISM)*, Italy, 2021.

[C06] S. A. Ansari†, K. R. Jerripothula, P. Nagpal†, and A. Mittal, "Eye-focused Detection of Bell's Palsy in Videos," 34^{th} *Canadian Artificial Intelligence Conference (Canadian AI [CAAI])*, Canadian Artificial Intelligence Association, 2021. [ERA B]

[C07] K. R. Jerripothula, S. K. Shukla†, S. Jain†, and S. Singh†, "Fruit Maturity Recognition from Agricultural, Market and Automation Perspectives," 47^{th} *IEEE Annual Conference of the Industrial Electronics Society (IECON)*, 2021.

[C08] K. R. Jerripothula, S. A. Ansari†, and R. Nijhawan, "A Vision-based Solution for Track Misalignment Detection," 34^{th} *Conference on Graphics, Patterns and Images (SIBGRAPI)*, IEEE, Brazil, 2021.

[C09] A. S. Patlan† and K. R. Jerripothula, "DASA: Domain Adaptation via Saliency Augmentation," 25^{th} *IEEE International Workshop on Multimedia Signal Processing (MMSP)*, France, 2023. [ERA B]

[C10] V. Vats† and K. R. Jerripothula, "Adversarial Examples with Specular Highlights," 19^{th} *IEEE International Conference on Computer Vision Workshops (ICCVw [AROW])*, France, 2023. [h5-index: 63]

[C11] P. Prakash, P. Singh, and K. R. Jerripothula, "TriMoFaceNet: A Trimmed MobileFaceNet Architecture for Resource-constrained Environments," *International Conference on Image, Video Processing and Artificial Intelligence (IVPAI)*, Proceedings of SPIE, Malaysia, 2024.

[C12] K. Khan†, I. Agarwal†, and K. R. Jerripothula, "Convex Hull-ish Object Detection," 27^{th} *International Conference on Pattern Recognition Workshops (ICPRw [IMUE])*, LNCS, Springer, 2024.

[C13] M. Kumar, A. Sharma, P. Mukherjee, and K. R. Jerripothula, "CMAEH: Contrastive masked autoencoder based hashing for efficient image retrieval," 27^{th} *International Conference on Pattern Recognition (ICPR)*, Springer, 2024. [CORE B]

[C14] P. Prakash, K. R. Jerripothula, A. J. Sam, P. K. Singh, and S. Umamaheswaran, "SymFace: Additional Facial Symmetry Loss for Deep Face Recognition," 38^{th} *IEEE International Joint Conference on Neural Networks (IJCNN)*, Italy, 2025. [CORE B]

PATENTS

[P1] K. R. Jerripothula, D. Lal, N. Xu, and R. Harb, "Automated radial blurring based on saliency and co-saliency," ***United States*** *patent (US 12530748 B2)*, 2026.

GRANTS & PROJECTS

K. R. Jerripothula, "VIDER-Blinks: Video-based Diagnosis and Rehabilitation of Bell's Palsy and Blepharospasm *via* Blinks," *Prime Minister Early Carrer Research Grant (PM ECRG), Anusandhan National Research Foundation (ANRF)*, 2025-28. [INR 69 Lakhs]

K. R. Jerripothula, "Complex-Valued Neural Networks for Dense Prediction and Audio-Visual Tasks," *Dolby Laboratories, Inc.*, 2025-2027.
[US$ 3,000 (INR 2.6 Lakhs)/Quarter (renewable)]

K. R. Jerripothula, "Design and Development of Face Detection and Recognition Solution," *Bharat Electronics Ltd.*, 2024-25. [INR 28 Lakhs] [O/P: W5, C8]

K. R. Jerripothula, "Visual Saliency and Enhancements," *Adeia Inc.*, 2022-23.
[US$ 15,000 (INR 12 Lakhs)] [O/P: P1]

S. Anand and K. R. Jerripothula, Artificial Intelligence for Monitoring of Wildlife for Conservation (AIM–Wildlife Conservation)," *Core Research Grant (CRG), Science and Engineering Research Board (SERB), GoI*, 2021-24. [INR 61 Lakhs] [O/P: J6]

K. R. Jerripothula, "Complex-valued Neural Networks for Dense Prediction Tasks," *Initiation Grant, IIT Kanpur*, 2025-27. [INR 25 Lakhs]

K. R. Jerripothula, "Semi-supervised, Weakly-supervised, or Self-supervised Semantic Object Detection and Segmentation for Smart-city Applications," *Initiation Research Grant, IIIT-Delhi*, 2020-21. [INR 5 Lakhs] [O/P: W2, W6]

INVITED TALKS

"Joint Processing: From Co-saliency and Federated Learning to Wavelets and Complex-valued Networks for Visual Understanding"
- Skill Development Program on AI/ML Applications in Defence Sector, Feb. 2026, Defence Technology & Test Centre (DTTC), DMSRDE, DRDO, Lucknow, India.

"Video Segmentation" [Coverage]
- Academic Summit 1.0, Oct. 2024, Samsung Research Institute, Noida, India.

"Vision-based Diagnosis of Neurological Disorders" [Video]
- AICTE ATAL FDP on Healthcare Data Analytics using Artificial Intelligence and Machine Learning, Dec. 2021, COEP, India.

"Deep Learning" [Video]
- AICTE ATAL FDP on Artificial Intelligence, Oct. 2020, NIT Allahabad, India.

"SGG: Spinbot, Grammarly and GloVe based Fake News Detection System" [Paper]
- IEEE International Conference on Multimedia Big Data (BigMM), Sept. 2020. (Authors: A. Gautam†, K. R. Jerripothula) (invited paper) [25+ Citations]

"Image Co-segmentation via Saliency Co-fusion" (Paper [J1] Presentation) [Link]
- IEEE International Symposium of Circuits and Systems (ISCAS), May 2017, USA.

OPENSOURCE CONTRIBUTIONS

- **Code:** Released for A2, J1, C1–C3, and A5-A7.
- **Datasets:** Released for J3–J5, A2, A4, A6, and C10.
- **Teaching:** C++ demos for numerical methods.

SKILLS/TOOLS

MATLAB, C/C++, Java, JavaFX, Python, Orange, HTML, PHP, MySQL, JavaScript, and LaTex.

CURRENT PhD STUDENTS

Name	Institution	Publications/Work	Notes
Saurabh Yadav	IIIT-Delhi	A5, A7, Thesis submitted	Now SDS @ Microsoft
Avi Gupta	IIIT-Delhi	A6, Compre. completed	GE & Dolby Intern
Sakshi Goel	IIT Kanpur	SOTA completed	—
Anubhav Dixit	IIT Kanpur	SOTA completed	—
Ayushi Ojha	IIT Kanpur	Compre. completed	—
Nisha Singh	IIT Kanpur	—	—
Gagan Soni	IIT Kanpur	—	—

CURRENT MASTER'S STUDENTS

Name	Institution	Publications/Work	Notes
Anish P. Dang	IIT Kanpur	Thesis submitted	—
Suryansh Singh	IIT Kanpur	—	—
Durgesh Dongre	IIT Kanpur	—	—
Anirudh Praveen	IIT Kanpur	—	—
Ayaz Ansari	IIT Kanpur	—	—
Adithya Pulimanti	IIT Kanpur	—	—
Rashmi Renu	MAIDS, Delhi	Thesis submitted	—
Simran Bhatia	MAIDS, Delhi	—	—

GRADUATED MASTER'S STUDENTS

Name	Institution	Publications/Work	Notes
Shreyansh Jain	IIIT-Delhi	A4, Thesis	now @ Heineken
Harsh Badhauriya	IIIT-Delhi	Thesis	now App. Scientist @ Amazon
Vanshika Vats	IIIT-Delhi	C10	now PhD Student @ UCSC
Aman Kumar	IIT Kanpur	Thesis	now @ AAI
Utkarsh Bhatt	IIT Kanpur	Thesis	now @ Analog Devices
Harshit Chabbra	IIIT-Delhi	C05	now Staff Er. @ Sandisk
Kaamraan Khan	IIIT-Delhi	C12	now ML Er. @ Qualcomm
Ishita Agarwal	IIIT-Delhi	C12	now Sr. SE @ Nvidia

GRADUATED BACHELOR'S STUDENTS

Name	Institution	Publications/Work	Notes
Atharv Patlan	IIT Kanpur	C09	now PhD student @ Princeton
Akansha Gautam	IIIT-Delhi	SGG, BTP Report	now SE @ Toast
Aman Khan	IIIT-Delhi	BTP Report	now SDE @ Jio
Arka Sarkar	IIIT-Delhi	BTP Report	now SE @ Google
Daksh Goyal	NITK	C04	now SE @ Microsoft
Yash Rautela	Graphic Era	J4	now @ RWTH Aachen

AWARDS & RECOGNITIONS

PM ECRG (Prime Minister Early Career Research Grant), 2025
- *Project at the intersection of Computer Vision & Biomedical Engineering*

Dolby Gift Award, 2025, Dolby Technology India Pvt. Ltd.
- *Supporting research on complex-valued neural networks in the audio-visual domain*

Top 10% Paper Award, IEEE ICIP 2014
- *"Automatic Image Co-Segmentation Using Geometric Mean Saliency"*

NTU Research Scholarship
- *From Nanyang Technological University (NTU), Singapore, for the period 2013-17.*

Institute Merit-cum-means Scholarship
- *From Indian Institite of Technology (IIT) Roorkee, India, for the period 2008-12.*

All India Rank 1221, IIT-JEE
- *Among 3.1 Lakh students who appeared for it in 2008.*

All India Rank 35, KVS-JMO
- *In KVS Junior Maths Olympiad exam for 10^{th} class students during 2005-06.*

TEACHING EXPERIENCE

Computer Vision, Image Processing, Machine Learning, Programming (C++/Java), Numerical Methods, Basic Electrical Engineering, Introduction to Electronics, Remote Sensing, and Complex Analysis.

OUTREACH ACTIVITIES

- Taught multiple IITK's eMaster's modules on Computer Vision and Deep Learning.
- Guided multiple students in IIITK's eMasters Project module.
- Taught a course on basics of machine learning to DoT officials.
- Co-taught a course titled "Advanced Programming" at CSEDU (IIITD) program.

PROFESSIONAL SERVICES

- Area Chair for ICME'24-26
- Member of National Advisory Committee for CVIP'24
- Session Chair at ICME'22 & BigMM'20
- Reviewer for CVPR, ECCV, ICCV, WACV, ICLR, AAAI, NeurIPS & AISTATS
- Reviewer for TIP, TMM, TCSVT, TMI, TOMM, TETCI, PR & CVIU
- IIIT-Delhi CSE Department Website Coordinator
- IIIT-Delhi Faculty In-Charge (International Students)
- IIIT-Delhi Ranking Committee Member
- IITK EE MSR Admission (Dec 2024) Committee Convener (SPCOM)
- IITK EE PhD Admission (May 2025) Committee Convener (SPCOM)
- IITK EE Placement Committee Member (2025-26)
- IITK EE Research Day Committee Member (2025-26)
- IITK EE SURGE Committee Member (2024-26)