

Curriculum Vitae

Name: Rohit Saluja

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Permanent Address: 54 B Viratnagar, Panipat - 132103, Haryana, India.

Career Goals: To keep myself abreast with the latest technological advancements/developments and contribute to the field of Computer Vision, in the best way possible, with full devotion and dedication.

Areas of Interests: Computer Vision, Mobility, Optical Character Recognition, Machine Learning, Deep Learning.

Education:

- Postdoc. (2020 - current), CVIT, IIIT-Hyderabad
- Ph.D. (2015 - 2020), IITB-Monash, CGPA: 8.13
- B.E. Hons. (E.E.E. 2006 - 2010), B.I.T.S. Pilani Goa Campus, CGPA: 9.14
- XII (2006), C.B.S.E, Percentage: 86.6, X (2004), C.B.S.E, Percentage: 82

Publications:

1. **“Detecting, Tracking and Counting Motorcycle Rider Traffic Violations on Unconstrained Roads”**, Aman Goyal, Dev Agarwal, Anbumani Subramanian, C. V. Jawahar, Ravi Kiran Sarvadevabhatla, and Rohit Saluja. CVPR Workshop on Bridging the Gap between Computational Photography and Visual Recognition (UG2+), 2022.
2. **“FLUID: Few-Shot Self-Supervised Image Deraining”**, Shyam Nandan Rai, Rohit Saluja, Chetan Arora, Vineeth N. Balasubramanian, Anbumani Subramanian, and C. V. Jawahar. In Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision, pp. 3077-3086. 2022.
3. **“To miss-attend is to misalign! Residual Self-Attentive Feature Alignment for Adapting Object Detectors”**, Vaishnavi Khindkar, Chetan Arora, Vineeth N. Balasubramanian, Anbumani Subramanian, Rohit Saluja, and C. V. Jawahar. In Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), 2022.
4. **“Multi-Domain Incremental Learning for Semantic Segmentation”**, Prachi Garg, Rohit Saluja, Vineeth N Balasubramanian, Chetan Arora, Anbumani Subramanian, C V Jawahar, In Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), 2022.
5. **“Improving Scene Text Recognition for Indian Languages with Transfer Learning and Font Diversity”**, Sanjana Gunna, Rohit Saluja and C V Jawahar, *Journal of Imaging* 8.4 (2022): 86.
6. **“ORDER: Open World Object Detection on Road Scenes”**, Deepak Kumar Singh, Shyam Nandan Rai, K J Joseph, Rohit Saluja, Vineeth N Balasubramanian, Chetan Arora, Anbumani Subramanian, and C.V. Jawahar, NeurIPS 2021 Workshop on Machine Learning for Autonomous Driving, 2021.
7. **“Automatic Quantification and Visualization of Street Trees”**, Arpit Bahety, Rohit Saluja, Ravi Kiran Sarvadevabhatla, Anbumani Subramanian, C.V. Jawahar, Indian Conference on Computer Vision, Graphics and Image Processing (ICVGIP) 2021.
8. **“Transfer Learning for Scene Text Recognition in Indian Languages”**, Sanjana Gunna, Rohit Saluja

and C V Jawahar, Camera-Based Document Analysis and Recognition (CBDAR) 2021.

9. **“CATALIST: CAmera TrAnsformations for multi-LIngual Scene Text recognition”**, Shivam Sood, Rohit Saluja, Ganesh Ramakrishnan and Parag Chaudhuri, Camera-Based Document Analysis and Recognition (CBDAR) 2021.
10. **“Towards Boosting the Accuracy of Non-Latin Scene Text Recognition”**, Sanjana Gunna, Rohit Saluja and C V Jawahar, International Workshop on Arabic and Derived Script Analysis and Recognition (ASAR) 2021.
11. **“Evaluating Computer Vision Techniques for Urban Mobility on Large-Scale, Unconstrained Roads”**, Harish Rithish, Raghava Modhugu, Ranjith Reddy, Rohit Saluja, and C. V. Jawahar. arXiv preprint arXiv:2109.05226 (2021).
12. **“An OCR for Classical Indic Documents Containing Arbitrarily Long Words”**, Agam Dwivedi, Rohit Saluja and Ravi Kiran Sarvadevabhatla. CVPR Workshop on Text and Documents in the Deep Learning Era, 2020.
13. **“OCR On-the-Go: Robust End-to-end Systems for Reading License Plates and Street Signs”**, Rohit Saluja, Ayush Maheshwari, Ganesh Ramakrishnan, Parag Chaudhuri, and Mark Carman, International Conference on Document Analysis and Recognition (ICDAR) 2019, Sydney, Australia.
14. **“Sub-word Embeddings for OCR Corrections in highly Fusional Indic Languages”**, Rohit Saluja, Mayur Punjabi, Mark Carman, Ganesh Ramakrishnan and Parag Chaudhuri, International Conference on Document Analysis and Recognition (ICDAR) 2019, Sydney, Australia.
15. **“StreetOCRCorrect: An Interactive Framework for OCR Corrections in Chaotic Indian Street Videos”**, Pankaj Singh, Bhavya Patwa, Rohit Saluja, Ganesh Ramakrishnan, and Parag Chaudhuri, 2nd International Workshop on Open Services and Tools for Document Analysis (ICDAR- OST) 2019, Sydney, Australia.
16. **“Improving the learnability of classifiers for Sanskrit OCR corrections”**, Devaraja Adiga, Rohit Saluja, Vaibhav Agrawal, Ganesh Ramakrishnan, Parag Chaudhuri, K. Ramasubramanian and Malhar Kulkarni, Proceedings of the 17th World Sanskrit Conference, Vancouver, 2018.
17. **“Error Detection and Corrections in Indic OCR using LSTMs”**, Rohit Saluja, Devaraj Adiga, Parag Chaudhuri, Ganesh Ramakrishnan and Mark Carman, International Conference on Document Analysis and Recognition (ICDAR) 2017, Kyoto, Japan.
18. **“A Framework for Document Specific Error Detection and Corrections in Indic OCR”**, Rohit Saluja, Devaraj Adiga, Parag Chaudhuri, Ganesh Ramakrishnan and Mark Carman, 1st International Workshop on Open Services and Tools for Document Analysis (ICDAR- OST) 2017, Kyoto, Japan.
19. **“Leaf Counting in Rice (Oryza Sativa L.) Using Object Detection: A Deep Learning Approach”**, Mukesh Kumar Vishal, Biplab Banerjee, Rohit Saluja, Dhandapani Raju, Viswanathan Chinnusamy, Sudhir Kumar, Rabi Narayan Sahoo, and Jagarlapudi Adinarayana. In *2020-2020 IEEE International Geoscience and Remote Sensing Symposium (IGRASS)*, pp. 5286-5289. IEEE, 2020.
20. **“Image-based phenotyping of diverse Rice (Oryza Sativa L.) Genotypes”**, M K Vishal, D Tamboli, A Patil, R Saluja, B Banerjee, A Sethi, D Raju, arXiv preprint arXiv:2004.02498.
21. **“Analysis of bluetooth patch antenna with different feeding techniques using simulation and optimization”**, Rohit Saluja, A.L. Krishna, P.K. Khanna, D. Sharma, P. Sharma and H.C. Pandey, Recent Advances in Microwave Theory and Applications, International Conference on IEEE, 2008, Jaipur, India.

Awards:

1. **Best Paper Award** at Camera-Based Document Analysis and Recognition (CBDAR) 2021.
2. **Excellence in the Ph.D. Research 2019-2021 award** from CSE Department, IIT Bombay.
3. **Our team "CLAM" secured 2nd position in the Multilingual PostOCR Competition at ICDAR 19.**

Our model achieved the highest **corrections of 44% in Finnish**, which is significantly higher than overall topper (8% in Finnish).

4. **“Development of an adaptive framework for end-to-end corrections in Indic OCR”**, Ganesh Ramakrishnan and Parag Chaudhuri, **IIT Bombay Impactful Research Award, 2017**.
5. **“A Framework for Error Detection and Corrections in Sanskrit,”** Rohit Saluja, Devaraj Adiga, Ganesh Ramakrishnan, Parag Chaudhuri and Mark Carman, Research and Innovation Symposium in Computing (RISC) 2017 (**Most Admiring Poster Presentation Award**), IIT-Bombay, India.
6. **Improvement Projects Rewards Scheme System (IMPRESS) Award** for **“cable routing optimization”** in 2014 at **BHEL-PEM Noida**.

PhD Courses:

Credit

- Computer Vision
- Digital Image Processing
- Mathematics for Visual Computing
- Foundations of Machine Learning
- Medical Image Computing
- Data Analysis and Interpretation
- Data Structures and Algorithms

Audit

- Foundations of Intelligent & Learning Agents
- Advanced Computer Graphics
- Computer Graphics
- Advanced Image Processing
- Automatic Speech Recognition
- Introduction to Indian Astronomy

Professional Experience:

- Engineer (2010-2014), Bharat Heavy Electricals Ltd. (**BHEL**), Project Engineering Management (PEM) Division, Noida, India. Completed an IMPRESS project on cable routing optimization in 2014 which **saves 400 man-hours & 1500 papers for every power plant project @ PEM**.
- Engineer Trainee (2014 January - July), LSI Logic (now **Avagotech**), Pune, India. Completed a project related to branching representation of clocks in MATLAB.
- Research Trainee (2012 May-July), Central Electronics Engineering Research Institute (**CEERI**), Pilani, Rajasthan, India. Published the research paper mentioned at the end of Publications.

Software Experience:

- Developed [OpenOCRCorrect](#) - An Adaptive Framework for correcting mistakes in OCR output.
- Helped in developing [Shobhika](#) - A Devanāgarī font for scholars.
- Programming Languages: C++, Lua, Python, Matlab.
- Engineering Softwares: tesseract-ocr, Qt, Torch, Pytorch, Tensorflow, Kaldi ASR.

Extracurriculars:

- Have significantly helped in organizing the challenge on Domain Adaptation to study semantic segmentation across driving scenes from multiple domains at 3rd Workshop on Autonomous Navigation in Unconstrained Environments (AutoNUE), in conjunction with CVPR 2021.
- Have learned Kalaripayattu, Taekwondo (Black belt) and Judo. Have won 5 gold medals and 2 best fighter trophies at the district level, 3 silver medals at the state level and a bronze medal at the national level.
- Write poems, play musical instruments like Harmonium, Mridanga and Flute.

References available upon request.