



## Bulla Rajesh

### Contact

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### Personal Skills

- ❖ Punctuality
- ❖ Hardworking
- ❖ Adaptive Nature
- ❖ Communication
- ❖ Research Attitude

### Programming Skills

- C
- C++
- Python
- Basic Java
- Linux commands
- Bash Programming
- Mat lab
- High Performance Computing
- Machine Learning

### Certifications

**Deep Learning Hands on Course**  
(One Fourth Labs, IIT Madras)

### Personal statement

As an enthusiastic and freshly graduated academic research scholar with capable skills in Information Technology, I am looking for an opportunity to take up a required research task and adapt to changing conditions in solving it. I have been in research processing JPEG encoded, and DCT transformed quantized streams for the last five years. I have accomplished multiple efficient research outcomes concerning the storage and transmission of JPEG encoded images addresses many typical problems in the present big-data era. My research experience and professionalism have proven in numerous project assessments, making me confident and comfortable extending the acquired knowledge to carry out new research problems for optimal solutions.

### Research Interests

- Compressed data analysis
- Image compression
- Transformed domain
- Deep learning models
- Digital Image processing
- Encoding and Decoding
- Machine learning models
- Document Image analysis

Google Scholar link: <https://scholar.google.com/citations?user=LEqE7woAAAAJ&hl=en>

### Experience

#### Research - 07/2017 to Present

- I have been a research scholars for last five years.
- I have been a Junior Research Fellow (JRF) for two years.
- I have worked as Senior Research Fellow (SRF) for two years.
- I have authored and presented several conference papers and posters in many research platforms across the globe.
- I have published multiple SCI journals.
- I have Attended and conducted multiple research workshops
- I have delivered many Hands on demos and expert talks of research work.
- I have experience in working with High Performance systems.

#### Teaching and Research Assistant - 07/2017 to Present

##### At IIIT Allahabad, India

- I have been involved in teaching and practical assessments for last 5 years.
- I have assisted in courses such as image processing, Advance Graphics, basic C programming, Data Structures, Design of Algorithms and Analysis, and Mathematics for IT.
- I have been guiding and assessing many graduate and post graduate projects and theses.

### Education

- ❖ Research Scholar (PhD) : **Information Technology** – 2018-Present  
**Indian Institute of Information Technology Allahabad, U.P, India**
- ❖ Master of Technology : **Human Computer Interaction**, – 2016-2018  
**Indian Institute of Information Technology Allahabad, U.P, India**
- ❖ Bachelor of Science : **Computer Science and Engineering** – 2012-2016  
**Rajiv Gandhi University of Knowledge of Technology RK Valley, A.P**

## Research Publications:

### Journal Publications (SCI indexed)

1. **Bulla. Rajesh**, M. Javed, P. Nagabhushan, **Automatic Tracing and Extraction of Text-Line and Word Segments Directly in JPEG Compressed Document Images**. IET Image Processing, Volume 14, Issue 9, 20 July 2020, p. 1909 – 1919, <https://doi.org/10.1049/iet-ipr.2019.1437>  
(Online Paper link: <https://ietresearch.onlinelibrary.wiley.com/doi/10.1049/iet-ipr.2019.1437>)
2. **Bulla. Rajesh**, M. Javed, P. Nagabhushan, **FastSS: Fast and smooth segmentation of JPEG compressed printed text documents using DC and AC signal analysis**. *Multimedia Tools Applications* (2022). <https://doi.org/10.1007/s11042-021-11858-0>  
(Online Paper link: <https://link.springer.com/article/10.1007/s11042-021-11858-0>)
3. **Bulla. Rajesh**, M. Javed, David S. Doermann and Jatin Bindra, “**Holistic Recognition of Handwritten Words using an Efficient HH-CompWordNet in JPEG Compressed Domain**”, *Under Revision*, Journal of Electronic Imaging.
4. **Bulla. Rajesh**, M. Javed and Anand Kumar, “**Deep Semantic segmentation of news articles in JPEG compressed domain**”, *Under Review*, Pattern Analysis and Applications.

### International and National Conference Publications

1. **Bulla. Rajesh**, P. Jain, M. Javed and D. Doermann, "HH-CompWordNet: Holistic Handwritten Word Recognition in the Compressed Domain," *2021 Data Compression Conference (DCC)*, 2021, pp. 362-362, [doi: 10.1109/DCC50243.2021.00081](https://doi.org/10.1109/DCC50243.2021.00081). [A\*, Core ranking], **Washington D.C, U.S.A**
2. **Bulla. Rajesh**, M. Javed, P. Nagabhushan and W. Osamu, "Segmentation of Text-Lines and Words from JPEG Compressed Printed Text Documents Using DCT Coefficients," *2020 Data Compression Conference (DCC)*, 2020, pp. 389-389, [doi: 10.1109/DCC47342.2020.00083](https://doi.org/10.1109/DCC47342.2020.00083). [A\*, Core ranking], **Washington D.C, U.S.A**
3. **Bulla, Rajesh**, M. Javed, Ratnesh and S. Srivastava, "DCT-CompCNN: A Novel Image Classification Network Using JPEG Compressed DCT Coefficients," *2019 IEEE Conference on Information and Communication Technology*, 2019, pp. 1-6, [doi: 10.1109/CICT48419.2019.9066242](https://doi.org/10.1109/CICT48419.2019.9066242).
4. **Bulla. Rajesh**, M. Javed and P. Nagabhushan, "Automatic Text Line Segmentation Directly in JPEG Compressed Document Images," *2019 IEEE 8th Global Conference on Consumer Electronics (GCCE)*, 2019, pp. 1067-1068, [doi: 10.1109/GCCE46687.2019.9015518](https://doi.org/10.1109/GCCE46687.2019.9015518). **Tokyo, Japan**
5. R. Chandra, M. Javed, **Bulla. Rajesh**, B. S. Sanjeev and S. Khijmatgar, "Target-less Drug Discovery Pipeline using Feature Driven Development (FDD) model," *2021 IEEE International Conference on Bioinformatics and Biomedicine (BIBM)*, 2021, pp. 2651-2658, [doi: 10.1109/BIBM52615.2021.9669585](https://doi.org/10.1109/BIBM52615.2021.9669585). **Houston, U.S.A**
6. A. Singh, **Bulla. Rajesh** and M. Javed, "Deep Learning Based Image Segmentation Directly in the JPEG Compressed Domain," *2021 IEEE 8th Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON)*, 2021, pp. 1-6, [doi: 10.1109/UPCON52273.2021.9667630](https://doi.org/10.1109/UPCON52273.2021.9667630).
7. Jatin Bindra, **Bulla. Rajesh**, Savita Ahlawat, “Deeper into Image Classification”, International Conference on Innovative Computing and Communications pp 69-8, 2018. [doi:10.1007/978-981-15-5148-2\\_7](https://doi.org/10.1007/978-981-15-5148-2_7)
8. Shrikanth Temburwar, **Bulla Rajesh**, M. Javed, “Deep Learning Based Image Retrieval in the JPEG Compressed Domain”, MISP2021, SPRINGER.
9. Atul Sharma, **Bulla Rajesh**, M. Javed, “Detection of Plant Leaf Disease Directly in the JPEG Compressed Domain using Transfer Learning Technique”, MISP2021, SPRINGER.