

## Personal Profile

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**Dr. Jagdeep Rahul**  
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Communication Engineering**  
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## Educational Profile

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Ph.D.	Rajiv Gandhi University, Doimukh, Arunachal Pradesh; 2021 Supervisor: Dr. Marpe Sora
M. Tech.	ABV-Indian Institute of Information Technology and Management, Gwalior, Madhya Pradesh; 2012 Subject: Computer Science and Engineering Specialization: VLSI Design
B. Tech.	Bundelkhand University, Jhansi, Uttar Pradesh; 2009 Subject: Electronics and Communication Engineering

## Professional Experience

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<b>Assistant Professor</b> , Department of Electronics and Communication Engineering, Rajiv Gandhi University, Arunachal Pradesh, India	28 <sup>th</sup> July, 2015-till date
<b>Assistant Professor</b> , Department of Electronics and Electrical Engineering, Lovely Professional University, Punjab, India	01 <sup>st</sup> August, 2012- 29 <sup>th</sup> Nov, 2014

## Administrative Experience

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<b>Head (i/c), Department of Electronics and Communication Engineering</b> , Rajiv Gandhi University, Arunachal Pradesh, India	07 <sup>th</sup> August, 2015- 31 <sup>st</sup> August, 2020
<b>Member of Board of Post Graduate Studies (BPGS), Department of ECE</b> , Rajiv Gandhi University, Arunachal Pradesh, India	May, 2016- till date
<b>Member of Community Radio Station</b> , Rajiv Gandhi University, Arunachal Pradesh, India	Oct, 2016- till date

<b>Member of Skill Based Programme Committee</b> , Rajiv Gandhi University, Arunachal Pradesh, India	April, 2020- till date
<b>Member of Software Inventory Committee</b> , Rajiv Gandhi University, Arunachal Pradesh, India	25 <sup>th</sup> June, 2021- till date
<b>Member of Board of Studies for Creative Learning</b> , Rajiv Gandhi University, Arunachal Pradesh, India	04 <sup>th</sup> Oct, 20121 – till date

## **Awards & Honours**

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1. Qualified GATE in 2010, 2013, 2014.

## **Membership of Professional Bodies**

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1. ACM Professional Member, USA (2021-22) (4826488)

## **Research Interests**

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- Discrete time signal processing
- Biomedical signal processing
- Artificial Intelligence
- Microelectronics

## **Research Publications**

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1. Artificial intelligence–based approach for atrial fibrillation detection using normalised and short-duration time-frequency ECG: Rahul, J.; Sharma, L. D.; *Biomedical Signal Processing and Control*, **2021**, 71(3),1 -9. **(SCI IF: 3.88)**
2. A novel and lightweight P, QRS, and T peaks detector using adaptive thresholding and template waveform: Rahul, J.; Sora, M.; Sharma, L.D.; *Computers in Biology and Medicine*, **2021**, 132(3), 1-14. **(SCI IF: 4.589)**
3. An improved cardiac arrhythmia classification using an RR interval-based approach: Rahul, J.; Sora, M.; Sharma, L.D.; Bohat, V. K.; *Biocybernetics and Biomedical Engineering*, **2021**, 41(2), 656-666. **(SCI = 4.314 IF)**
4. Dynamic thresholding based efficient QRS complex detection with low computational overhead: Rahul, J.; Sora, M.; Sharma, L.D.; *Biomedical Signal Processing and Control*, **2021**, 67(1), 1-16. **(SCI = 3.88 IF)**
5. Short duration vectorcardiogram based inferior myocardial infarction detection: class and subject-oriented approach: Rahul, J.; Sharma, L.D.; Bohat, V. K.; *Biomedical Engineering / Biomedizinische Technik*, **2021**, 66(5), 489-501. **(SCI = 1.411 IF)**
6. An enhanced T-wave delineation method using phasor transform in the electrocardiogram: Rahul, J.; Sharma, L.D.; *Biomedical Physics & Engineering Express*, **2021**, 7(4), 1-9. **(Scopus/ESCI)**

7. Powerline interference removal technique using digital notch filter in ECG: Rahul, J.; Sora, M.; *Advances and Applications in Mathematical Sciences*, **2021**, *20* (7), 1269-1277. **(ESCI)**
8. Exploratory data analysis based efficient QRS-complex detection technique with minimal computational load: Rahul, J.; Sora, M.; Sharma, L.D.; *Physical and Engineering Sciences in Medicine*, **2021**, *43*(3),1049-1067. **(SCI = 1.43 IF)**
9. A novel adaptive window-based technique for T wave detection and delineation in the ECG: Rahul, J.; Sora, M.; *Bio-Algorithms and Med-Systems*, **2020**, *16*(1), 1-10. **(Scopus/ESCI)**
10. Micro-cantilevered MEMS biosensor for detection of malaria protozoan parasites: Kurmendra; Rahul, J.; Kumar, R.; *Journal of Computational Applied Mechanics*, **2019**, *50*(1), 99-107. **(Scopus/ESCI)**
11. An overview on biomedical signal analysis: Rahul, J.; Sora, M.; Sharma, L.D.; *Int J Recent Technol Eng*, **2019**, *7*(5), 206-209. **(Scopus)**
12. Analysis of MEMS based micro-hot plate for gas sensor: Rahul, J.; Kurmendra; *Journal of Semiconductor Devices and Circuits*, **2019**, *6*(2), 2455- 3379.
13. Algorithm for QRS complex detection using discrete wavelet transform: Khamhoo, C.M.; Rahul, J.; Sora, M.; *International Journal of Electronics Engineering*, **2018**, *10*(2), 352-357. **(UGC Listed)**
14. ST segment analysis for early detection of myocardial infarction: Manlong, N. A.; Rahul, J.; Sora, M.; *International Journal of Computer Sciences and Engineering*, **2018**, *6*(6), 1500-1504. **(UGC Listed)**
15. The impact of high-k gate dielectric on junctionless vertical double gate MOSFET: Rahul, J.; *International Journal of Computer Sciences and Engineering*, **2018**, *6*(6), 1475-1478. **(UGC Listed)**
16. Impact of HfO<sub>2</sub> in graded channel dual insulator double gate MOSFET: Saib, S. S.; Yadav, S.; Rahul, J.; Srivastava, A.; Raj, B.; *Journal of Computational and Theoretical Nanoscience*, **2015**, *12*, 950-953. **(Scopus)**
17. Analysis of split gate technology for nanoscale double gate MOSFET devices: Yadav, S.; Rahul, J.; *International Journal of Scientific Engineering and Technology*, **2014**, *3*, 664- 665.

## **Patent**

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1. Rahul, J.; Sora, M.: A system to detect premature ventricular contraction (PVC) using a machine learning algorithm, Patent No.-202131020960, 2021(published).

## **Research guidance**

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### **Ph.D scholar**

Mr. Amar Bahadur Biswakarma

Topic of research: Biomedical Signal Processing

Year of PhD degree: Ongoing

### **Course/Conference/Workshop etc. attended**

1. 'Smart Electronics and Communication (ICOSEC)', IEEE International Conference, held at Kongunadu College of Engineering and Technology, Trichy, India, during 10-12 Sept, 2020.  
Title of the presentation: Premature Ventricular Contractions Classification using Machine Learning Approach
2. 'Intelligent Computing and Smart Communication Technologies' International Conference, held at Anurag Group of Institutions, Telangana, India, during 26-27 July, 2019.  
Title of the presentation: Power line interference noise cancellation in ECG using Zero Phase IIR Notch filtering.
3. 'Internet of Things: Smart Innovation & Usages 2019' IEEE International Conference, held at Krishna Engineering College, Ghaziabad, Uttar Pradesh, India, during 18-19 April, 2019.  
Title of the presentation: Baseline correction of ECG using regression estimation method
4. 'Devices, Circuits and Systems (ICDCS)' IEEE International Conference, held at Karunya University, Coimbatore, India, during 15-16 March, 2012.  
Title of the presentation: Performance evaluation of junctionless vertical double gate MOSFET.
5. 'Devices, Circuits and Systems (ICDCS)' IEEE International Conference, held at Karunya University, Coimbatore, India, during 15-16 March, 2012.  
Title of the presentation: TCAD assessment of nonconventional dual insulator double gate MOSFET.
6. 'Materials for Advanced Technologies (NCMAT-2012)' National Conference held at ABV-IIIT Gwalior, Madhya Pradesh, India, during 28 Feb, 2012.  
Title of the presentation: Effect of metal gate electrode in Junctionless double gate vertical MOSFET.
7. Invited talk in 'Engineers Day Celebration', held at Arunachal Pradesh Engineering Service Association (APESA), India, during 15<sup>th</sup> Sept, 2019.  
Title of the talk: Engineering for Change