



ACADEMIC CV

JEEVANAND SESHADRINATH

Assistant Professor

Deptt of Electrical Engineering

IIT Roorkee, Haridwar Distt, Uttarakhand-247667

E-mail: jeevanand.seshadrinath@ee.iitr.ac.in

Phone: +919650796478

Career Objective:

To undertake challenging and novel research and impart knowledge, thereby shaping up a career, for the betterment of mankind.

Educational Qualification:

Education	University/ Board	Year(s)
Ph.D. (Dept. of Electrical Engineering)	Indian Institute of Technology Delhi (IIT Delhi)	2009- 2013
M. Tech (Electrical Engg-Computer Controlled Industrial Power)	National Institute of Technology Calicut (NIT Calicut)	2006-08
B. Tech (Electrical & Electronics Engineering)	Kerala University, Govt. College of Engineering Trivandrum	2001-05
Pre-Degree	Calicut University (St Joseph's College, Devagiri)	1999-01
S.S.L.C	State Board (Silver Hills HSS)	1999

Work Experience:

Employer	Designation	From	To	Pay
BITS Pilani	Assistant Professor	1 April 2014	31 December 2014	PB-3. AGP: 8000, Basic: 30,000
Nanyang Technological University, Singapore (Rolls Royce @NTU Corporate lab)	Research Fellow	28 Jan 2015	16 Nov 2016	SGD 4400
IIT Roorkee	Assistant professor	15 Dec 2016	Present	13 A1 (Current pay)

Potential areas of interest:

Electrical Machines & Power Electronic Drives, Model based and data driven fault diagnosis and prognosis of rotating machinery, Algorithm development using machine learning methods, Power Electronics-Transformer less grid connected PV inverters, Renewable energy.

Publication List:

Peer-Review Journals

1. A. Srivastava and **J. Seshadrinath**, "A New Nine Level Highly Efficient Boost Inverter for Transformerless Grid Connected PV Application," *IEEE Journal of Emerging and Selected Topics in Power Electronics*, 2022, doi: 10.1109/JESTPE.2022.3210512. (Q1, IF:5.46, Corresp Author: Jeevanand Seshadrinath)
2. A. Srivastava and **J. Seshadrinath**, "A Novel Single Phase Three Level Triple Boost CG Switched-Capacitor Based Grid-Connected Transformerless PV Inverter" *IEEE Trans. Ind. Appl.* (Accepted for publication). (Q1, IF: 4.079, Corresp Author: Jeevanand Seshadrinath)
3. A. Srivastava and **J. Seshadrinath**, "A Single Phase Seven Level Triple Boost Inverter for Grid-Connected Transformerless PV Applications," in *IEEE Transactions on Industrial Electronics*, 2022, doi: 10.1109/TIE.2022.3215815. (Q1, IF: 8.162, Corresp Author: Jeevanand Seshadrinath)
4. F. Husari and **J. Seshadrinath**, "Incipient Interturn Fault Detection and Severity Evaluation in Electric Drive System Using Hybrid HCNN-SVM Based Model," *IEEE Transactions on Industrial Informatics*, vol. 18, no. 3, pp. 1823-1832, March 2022, doi: 10.1109/TII.2021.3067321. (Q1, IF: 11.648, Corresp Author: Jeevanand Seshadrinath)

5. F. Husari and **J. Seshadrinath**, "Early Stator Fault Detection and Condition Identification in Induction Motor Using Novel Deep Network," *IEEE Transactions on Artificial Intelligence*, vol. 3, no. 5, pp. 809-818, Oct. 2022, doi: 10.1109/TAI.2021.3135799. (**Q1**, *Corresp Author: Jeevanand Seshadrinath*)
6. F. Husari and **J. Seshadrinath**, "Stator Turn Fault Diagnosis and Severity Assessment in Converter Fed Induction Motor Using Flat Diagnosis Structure Based on Deep Learning Approach," *IEEE Journal of Emerging and Selected Topics in Power Electronics*, 2022, doi: 10.1109/JESTPE.2022.3184754. (**Q1**, **IF:5.46**, *Corresp Author: Jeevanand Seshadrinath*)
7. V. Nguyen, **J. Seshadrinath**, D. Wang, S. Nadarajan and V. Vaiyapuri, "Model-Based Diagnosis and RUL Estimation of Induction Machines Under Interturn Fault," in *IEEE Transactions on Industry Applications*, vol. 53, no. 3, pp. 2690-2701, May-June 2017. (**Q1**, **IF: 4.079**, *Corresp Author: Jeevanand Seshadrinath*)
8. V. Nguyen, D. Wang, **J. Seshadrinath**, Abhisek Ukil, M S Krishna, S. Nadarajan , "A Method for Incipient Interturn Fault Detection and Severity Estimation of Induction Motors Under Inherent Asymmetry and Voltage Imbalance," in *IEEE Transactions on Transportation Electrification*, vol. 3, no. 3, pp. 703-715, Sept. 2017, doi: 10.1109/TTE.2017.2726351. (**Q1**, **IF: 6.519**)
9. **J. Seshadrinath**, Singh.B, Panigrahi.B.K., "Incipient Interturn Fault Diagnosis in Induction Machines Using an Analytic Wavelet-Based Optimized Bayesian Inference," *IEEE Transactions on Neural Networks and Learning Systems*, , vol.25, no.5, pp.990,1001, May 2014. (**Q1**, **IF: 14.26**, *Corresp Author: Jeevanand Seshadrinath*)
10. **J. Seshadrinath**, Singh,B, Panigrahi, B.K, "Vibration Analysis Based Interturn Fault Diagnosis in Induction Machines," *IEEE Transactions on Industrial Informatics* , vol.10, no.1, pp.340,350, Feb. 2014. (**Q1**, **IF: 11.648**, *Corresp Author: Jeevanand Seshadrinath*)
11. **J. Seshadrinath**, Singh.B, Panigrahi, B.K, "Incipient Turn Fault Detection and Condition Monitoring of Induction Machine Using Analytical Wavelet Transform," *IEEE Transactions on Industry Applications*, vol.50, no.3, pp.2235,2242, May-June 2014. (**Q1**, **IF: 4.079**, *Corresp Author: Jeevanand Seshadrinath*)
12. **J. Seshadrinath**, Singh.B, Panigrahi.B.K, "Investigation of Vibration Signatures for Multiple Fault Diagnosis in Variable Frequency Drives Using Complex Wavelets," *IEEE Transactions on Power Electronics*, vol.29, no.2, pp.936,945, Feb. 2014. (**Q1**, **IF: 5.967**, *Corresp Author: Jeevanand Seshadrinath*)

13. **J. Seshadrinath**, Singh.B, Panigrahi, B.K., "Single-Turn Fault Detection in Induction Machine Using Complex-Wavelet-Based Method," *IEEE Transactions on Industry Applications*, , vol.48, no.6, pp.1846,1854, Nov.-Dec. 2012. (Q1, IF: 4.079, Corresp Author: Jeevanand Seshadrinath)
14. **J. Seshadrinath**, B. Singh, and B. K. Panigrahi "A Modified PNN Based Algorithm for Detecting Turn Faults in Induction Machines", *IETE J Res* , vol. 58, no. 4, pp. 300-309, Oct. 2012. (**Won the IETE JC Bose Memorial Award for the best engineering paper**) (Q1, IF: 2.333, Corresp Author: Jeevanand Seshadrinath)

Main Peer Review Conferences :

1. Merugu Siva Rama Krishna and **J. Seshadrinath**, "Stator Interturn Fault Modelling and Diagnosis for Synchronous Reluctance Motor Drive ", in IEEE Power Electronics, Drives and Energy Systems (PEDES-22) (Accepted and presented on 17/12/2022).
2. Suraj Prakash and **J. Seshadrinath**, "Active Disturbance Rejection Control-Based Speed Control of Sensorless BLDC Motor," in IEEE Industrial Electronics Society Annual On-Line Conference (ONCON), ONCON-2022 (Accepted and presented on 9/12/2022).
3. Shivateja Manala and **J. Seshadrinath**, "Reactive Power-Residual-Based Stator Interturn Fault Detection in PMSM Drive", in IEEE IAS Annual Meeting(IASAM),2022.
4. A. Srivastava and **J. Seshadrinath**, "Common Mode Leakage Current Analysis of 1 ϕ Grid-Tied Transformer Less H-Bridge PV Inverter," in International Conference on Sustainable Energy and Future Electric Transportation (SEFET), 2021, pp. 1–6.
5. A. Srivastava and **J. Seshadrinath**, "A Novel Single Phase Nine Level Quadruple Boost Grid-Connected Transformerless PV Inverter," in IEEE International conference on power electronics, smart grid, and renewable Energy (PESGRE), 2022, pp. 1–6, doi: 10.1109/pesgre52268.2022.9715857.
6. A. Srivastava and **J. Seshadrinath**, "A Novel Single Phase Three Level Triple Boost CG Switched-Capacitor Based Grid-Connected Transformerless PV Inverter," in IEEE international conference on power electronics, Smart grid, and renewable energy (PESGRE), 2022, pp. 1–6, doi:10.1109/pesgre52268.2022.9715821.
7. F. Husari and **J. Seshadrinath**, "Sensitive Inter-Tum Fault Identification in Induction Motors Using Deep Learning Based Methods," 2020 *IEEE International Conference on Power Electronics, Smart Grid and Renewable Energy (PESGRE2020)*, 2020, pp. 1-6, doi: 10.1109/PESGRE45664.2020.9070334.

8. F. Husari and **J. Seshadrinath**, "Inter-Turn Fault Diagnosis of Induction Motor Fed by PCC-VSI Using Park Vector Approach," *2020 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES)*, 2020, pp. 1-6, doi: 10.1109/PEDES49360.2020.9379388.
9. F. Husari and **J. Seshadrinath**, "Inter-Turn Fault Diagnosis of Induction Motor Fed by SVPWM-VSI Using Deep Learning Techniques," *IEEE international conference on Artificial Intelligence and Applications (IEEE-COER-ICAIA-2019) At: College of Engineering Roorkee (COER) university*
10. T. Khan, P. Alekhya and **J. Seshadrinath**, "Incipient Inter-turn Fault Diagnosis in Induction motors using CNN and LSTM based Methods," *2018 IEEE Industry Applications Society Annual Meeting (IAS)*, Portland, OR, 2018, pp. 1-6.
11. Danwei Wang, **J. Seshadrinath**, VietHung Nguyen, Abhisek Ukil, Viswanathan Vaiyapuri, Sivakumar Nadarajan "Inter-turn fault and Condition Identification in induction machines using multiple indicator approach", *IEEE TENCON 2016*, Singapore.
12. V. Nguyen, D. Wang, **J. Seshadrinath**, S. Nadarajan and V. Vaiyapuri, "Fault severity estimation using nonlinear Kalman filter for induction motors under inter-turn fault," *IECON 2016 - 42nd Annual Conference of the IEEE Industrial Electronics Society*, Florence, 2016, pp. 1488-1493.
13. W. Danwei, **J. Seshadrinath**, V. H. Nguyen, A. Ukil, V. Vaiyapuri, S. Nadarajan, M. S. Krishna, "A Multiple Indicator Approach for FDI of Interturn Fault in Induction Machines," *16th IEEE Int. Conf. on Industrial Technology-ICIT*, Taipei, Taiwan, Mar. 2016.
14. **J. Seshadrinath**, B. Singh, and B. K. Panigrahi "Incipient Turn Fault Detection and Condition Monitoring of Induction Machine using Analytical Wavelet Transform", in *Proc. IEEE IAS Annual Meeting*, 7-11 Oct. 2012, pp.1-6. (**Recommended for prize paper award**).
15. **J. Seshadrinath**, B. Singh, and B. K. Panigrahi "Sensitive Interturn Fault Diagnosis in Induction Machine using Vibration Analysis", in *Proc. IEEE PICONF 2012*, 19-22 Dec 2012, pp.1-6.
16. **J. Seshadrinath**, B. Singh, and B. K. Panigrahi "Broken Rotor Bar Detection in Variable Frequency Induction Motor Drives using Wavelet Energy Based Method", in *Proc. IEEE PEDES 2012*, 16-19 Dec 2012, pp.1-5.
17. **J. Seshadrinath**, B. Singh, B. K. Panigrahi, and V. Negi, "State of art on condition monitoring of induction motors," in *Proc IEEE Power Electronics, Drives and Energy Systems (PEDES) & 2010 Power India, 2010 Joint International Conference*, 2010, pp. 1-7.

Awards

- IETE JC Bose Memorial award for best engineering paper (2013)
- OPERA Award (Research grand) by BITS-PILANI (INR 3 lakh per year for five years). Only faculty in the institute (BITS-Pilani) to get this award.
- POSOCO Power system award for my PhD work
- Outstanding PhD thesis award, IIT Delhi in 2013.

Sponsored Projects

Title	Sponsoring Agency	Amount	Start Date	End Date	PI
Intelligent Condition monitoring of Induction Machines	IIT Roorkee	10.0 Lakhs	2017	Sept 30,2021	Prof Jeevanand S
Matching grant scheme-2018	IIT Roorkee, for Project funded by DST-SERB	10.0 Lakhs	August 26, 2019	13-Nov-2022	Prof Jeevanand S
Condition Monitoring and Diagnostics of Induction Motors using Hybrid Schemes	DST-SERB	39.314 Lakhs	14-May-19	13-Nov-2022 (Closure Report submitted)	Prof Jeevanand S
Investigation of Orthogonal Regularized Deep Neural Networks for Classification Tasks	DST-SERB-MATRICES	6.6 Lakhs	09-Jan-23	08-Jan-2026	Prof Jeevanand S
Energy optimization for EV Charging Station through Machine Learning and Artificial Intelligence	Technology Innovation Hub, IIT Roorkee	90 Lakhs	2021	2025-26'	Co-PI: Prof Jeevanand S PI – Prof Bhavesh Bhalja, EED , IIT Roorkee
FIST Program -2021	DST	133 lakhs	02 March 2022	01 March 2027	Co-PI and Member of Program Implementation group

Workshop / Course Organized

Sr. No.	Title of Workshop	Duration and Place	Sponsoring Agency	Number of Participants
1	Energy Audit during Smart Grid Environment	30/11/2020 to 04/12/2020	TEQIP	43

Software Skills:

Languages: C, Matlab/ Simulink, National Instruments LabView (Work experience in PXI and Compact RIO-FPGA Platforms).

OS: UNIX, Windows

Academic/Administrative responsibilities and initiatives

- Founder Advisor for IEEE IAS SB Chapter, IIT Roorkee. Active in organizing many events on behalf of the chapter (2019 onwards)
- Convener and member of DAC , EED, IIT Roorkee (2020-22')
- Current member of DRC, EED, IIT Roorkee (2022 onwards)
- Faculty in charge examinations, EED, IIT Roorkee (2019-2022).
- Faculty in charge MTech EDPE group, EED (2019-2022)
- Faculty in-charge for Computer Controlled Drives Lab and Electric Drives Lab II (2019-22'). Fully renovated and developed these labs.
- Anti-ragging squad committee member from EED, IIT Roorkee (2020 Onwards)
- IEEE Executive committee member for the execom of Delhi section. IEEE Chapters associated: PELS-IES & PES-IAS. (2010-2012)
- IEEE Senior Member , IAS and IES Member.
- Reviewer various journals of following IEEE Societies : IEEE Power Electronics society, IEEE Industrial Electronics society, IEEE Industry Applications society, IEEE Sensors, IEEE Instrumentation and measurement, IEEE Neural Networks and learning systems

Invited talks / Keynote address/ Other responsibilities

- Aligarh Muslim University
- NITTTR Chandigarh (Two Days)
- Trikkarippur Engineering College invited talk.

- Keynote address for IEEE PETPES 2019, NIT Surathkal.
- Technical committee program chair for IEEE PETPES 2019.
- Session chair for IAS Annual meeting flagship conference of IEEE IAS society (2020 and 2021)
- Session chair and TPC member for IEEE SEFET 2021.
- Session chair and TPC member for IEEE PESGRE 2020 and 2022.

References

Prof. Yogesh Hote : yogesh.hote@ee.iitr.ac.in

Prof D K Khatod : dheeraj.khatod@ee.iitr.ac.in

Prof Bhavesh Bhalja: bhavesh.bhalja@ee.iitr.ac.in

Personal Information

Name: Jeevanand S
Guardian's Name: M A Seshadrinath
DOB: 01/10/1983
Gender : Male
Permanent Address C 701 Riverview Appartments, IIT Roorkee
Marital Status Married
Mobile: +919650796478

Declaration:

I do hereby declare that the information furnished above is true to the best of my knowledge.

JANUARY 2023

PLACE: INDIA

(JEEVANAND S)