

CURRICULUM VITAE

Dr. Balaji Prabhu B V

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Objective:

Be affiliated with a prestigious institution in improving the standards of profession and empowering them with necessary skills, qualities, knowledge, attitude, and value of time.

Technical Strength

- Machine Learning and Deep Learning
- Hands-on HDFS and Map Reduce.
- Proficient in working with Pig.
- Hands-on Mongo DB.
- Proficient in working with Hive and HBase.
- Proficient in working with R and Python Programming Languages.
- R-Shiny web application development.
- Hands-on R-Hadoop.
- Proficient in working with Linux and Windows platforms.
- Proficient in C Programming Languages.
- Familiar with Operating system concepts and computer networks.
- Familiar with Data structures and RDBMS.
- Hands-on CISCO Packet Tracer network simulator.
- Proficient in working with SNAP and ArcMap for Remote sensing.

Research Areas of Interest

- Data Science
- Artificial Intelligence
- Block chain
- Remote Sensing
- Cloud Computing
- IoT

Academic Qualification

- **Postdoctoral Fellowship:** Computational Intelligence Lab, Department of Aerospace Engineering, **Indian Institute of Science** Bangalore. (January 2019 - August 2020).
- **Ph.D.** (Computer Science): Visvesvaraya Technological University.
Advisor: Dr. M Dakshayini, Professor, Dept. of ISE, BMSCE, Bangalore.
Research Center: Dept. of ISE, BMS College of Engineering, Bangalore.
Thesis Title: Design and Development of QOS based Strategies for Cloud-enabled Data Analytics. (2015-2018)
- **M.Tech:** (Computer Science) UBDTCE, Davangere (2010-2012)
- **B.E:** Information Science & Engineering, Kalpataru Institute of technology (2005-2009)

Testimonials

- **Best Young Researcher in Data Analytics**, Research Ratna Awards 2019, Trichy Tamil Nadu, 2019.
- **Best Paper Award** in Springer International Conference IEMIS (2018) held at IEM, Kolkata, 23 to 25 February 2018.
- **Runner-up of “Make in India Entrepreneurship Bootcamp”**, Ideation to Productization. Sponsored by Rotary Club of Bangalore and AarogyaSeva “Make for Sava Fund” during 19 to 29 July 2017.
- Qualified GATE in the year 2012.

Competitions Participated

- “Oxygen Enriched Air”, IUCEE Student Competition, June 2021.
- “**Gov-TechThon 2020**”, “virtual hackathon organized by IEEE in collaboration with National Informatics Centre, MeitY, GoI and Oracle from 30th October 2020 to 1st November 2020.
- “**Make in India Entrepreneurship Bootcamp**”, Ideation to Productization. Sponsored by Rotary Club of Bangalore and AarogyaSeva “Make for Sava Fund” during 19 to 29 July 2017.

Work Experience (Teaching/Research)

Sl No.	Name of the Institute	Designation	No. of Years
1.	Malnad College of Engineering, Hassan	Associate Professor	Sep-2020 till date
2.	Indian Institute of Science, Bangalore	Postdoctoral Research Associate	1.8
2.	BMS College of Engineering, Bangalore.	Teaching Assistant	4
3.	Kalpatharu Institute of Technology, Tiptur.	Assistant Professor	2.5

Research Experience

- **IISc, Bangalore-** Worked as a Postdoctoral Research Associate in the Department of Aerospace Engineering, Computational Intelligence Lab, IISc Bangalore from January 2019 to August 2020. During this tenure, worked on Remote Sensing and Artificial Intelligence.
- **BMSCE, Bangalore-** Worked as a Research Scholar in the research center Dept. of ISE, BMS College of Engineering, Bangalore in the research area Big Data Analytics from January-2015 to January-2019. Worked on predictive analytics, time series forecasting, regression models, demand supply analysis, and Blockchain technology and published research papers on various refereed journals.

Patents

1. Title: Populated Place monitoring and Medical alerts using Wireless Network analysis and respond using Cloud Computing. Application No. 202041056170A. Publication date: 01/01/2021

Publications

1. Ramesh Kestur, Anjali, Balaji Prabhu B V, S N Omkar, “MangoGAN: A General Adversarial Network based Deep Learning Architecture for Mango Tree Crown Detection”, Journal of Applied Remote Sensing (under review).
2. Balaji Prabhu B V, Lokesh Kumar, Naveed Unjam, S N Omkar, “ESR-EDSR a GAN Hybrid Model for Satellite Image Super Resolution”, Multimedia Tools and Applications (under review).

3. Balaji Prabhu B V, S N omkar, P G Diwakar, "A Detailed Survey on the Usage and Applications of Indian Earth Observation Satellites in India and by other Countries", Journal of the Indian Society of Remote Sensing. (under review).
4. **Balaji Prabhu B V**, M Dakshayini, "**Machine Learning-based decision support system for effective quality Farming**", International Journal of High Performance Computing. **SCI, WoS, Scopus Indexed**. Volume 99, Issue 11, 2020. dblp indexed. ISSN: 1938-0259, EISSN: 1938-0267, DOI: 10.4018/IJGHPC, H index -9, IF-0.9.
5. **Balaji Prabhu B V**, M Dakshayini, "**Computational Performance Analysis of ANN and MLR models in forecasting the societal demand for Agricultural food harvest**", International Journal of Information System Modeling Design. ISSN: 1938-0259 ,Volume 12, Issue 4, 2020, **SCI, WoS, Scopus Indexed**.
6. **Balaji Prabhu B V**, M Dakshayini, "**An Effective Multiple Linear Regression based Forecasting Model for demand based constructive Farming**", International Journal of Web-Based Learning and Teaching Technologies. **Scopus Indexed**. Volume 15, Issue 2, 2019. ISSN: 1548-1093, EISSN: 1548-1107, DOI: 10.4018/IJWLTT, H index-10, IF-0.75.
7. **Balaji Prabhu B V**, M Dakshayini, "**An Efficient Data Analytics-Cloud Integrated Decision Support Service for Smart Agriculture**", International Journal of Internet of Things and Big Data, DOI- <http://dx.doi.org/10.21742/ijitbd.2018.3.2.01>, Volume 3, No. 2, pp 1-12, 2018.
[Citations-1]
8. **Balaji Prabhu B V**, M Dakshayini, "**Performance Analysis of the Regression and Time Series Predictive Models using Parallel Implementation for Agricultural Data**", Elsevier Procedia Computer Science, DOI-10.1016/j.procs.2018.05.187, ISSN- 1877-0509, Vol. 132, pp-198-207, 2018. (IF-1.013, SCImago H-Index-34). **Scopus indexed**
[Citations-18]
9. **Balaji Prabhu B V**, M Dakshayini, "**Demand-Prediction Model for Forecasting AGRI-Needs of the society**", IEEE Xplore Compliant - Part Number: CFP17L34-ART, ISBN: 978-1-5386-4031-9, pp- 430-435, 2017. **Scopus Indexed**.
10. **Balaji Prabhu B V**, M Dakshayini, "**A Novel Cloud-based Data Analytics Framework for effective Crop Management**", International Journal of Control Theory and Applications, volume 9 issue 22, ISSN: 0974-5572, pp 257-264, 2016. (SCImago H-Index-23), IF-0.98. **Scopus indexed**. H-Indexed
[Citations-5]

11. Balaji Prabhu B V, Arpitha S, “Study on Causes and Issues of Big Data”, International Journal of Engineering Science and Research Technology, vol. 3, Issue 2, ISSN-2277-9655, 2014. (IF-1.852)
12. Balaji Prabhu B V, “PSNR Analysis for MDC Based Video Streaming Over Peer-to-Peer Networks”, IJSRP, Volume 3, Issue 9, ISSN 2250-3153, 2013. (IF-1.22)

Book Chapters/ Lecture Series

1. Hema N K, **Balaji Prabhu B V**, S N Omkar, “**Sugarcane leaf disease detection through deep learning**”, Deep Learning for Sustainable Agriculture, **Elsevier**. (communicated).
2. **Balaji Prabhu B V**, Nikith P Salian, Nikhil B M, S N Omkar, “**Super Resolution of Level-17 Images using Generative Adversarial Networks**”, Lecture Notes on Data Engineering and Communications Technologies, Springer Series, Vol. 61, ISSN: 2367-4512, 2020. **Scopus indexed.**
3. **Balaji Prabhu B V**, S N Omkar, “**Improved Image Super Resolution using Enhanced Generative Adversarial Network a comparative study**”, Lecture Notes on Data Engineering and Communications Technologies, Springer Series Vol. 61, ISSN: 2367-4512, 2020. **Scopus indexed.**
4. **Balaji Prabhu B V**, S N Omkar, “**Geo Spatial data from Un-manned Aerial Systems and applications**”, Lecture Notes on international Workshop on Advanced Spatial Analytics and Deep Learning for Geospatial Applications, C-SAG, NIAS, Bangalore, 2020.
5. **Balaji Prabhu B V**, S N Omkar, “**Multispectral and UAV image fusion by image Super-resolution using General Adversarial Network (GAN) Deep learning architecture**”, Proceedings 36th Annual In-house Symposium on Space Science and Technology, ISRO-IISc Space Technology Cell, Indian Institute of Science, Bengaluru, 16-17 January 2020.
6. **Balaji Prabhu B V**, M Dakshayini, “**An Effective Big-Data and Blockchain [BD-BC] based decision support model for Sustainable Agriculture system**”, Springer Innovations in Communications and Computing Series. ISSN: 2522-8595, ISBN: 978-3-030-19562-5, Chapter-8, DIO- 10.1007/978-3-030-19562-5_8, 2019. [Citations-1]
7. **Balaji Prabhu B V**, M Dakshayini, “**Regression based AGRO Forecasting Model**”, **Emerging Technologies in Data Mining and Information Security**. Springer Advances in

Intelligent Systems and Computing Series, Chapter-40, ISBN: 978-981-13-19501, DOI: https://doi.org/10.1007/978-981-13-1951-8_43 , 2018.

Paper presentation in Conferences

1. Balaji Prabhu B V, M Dakshayini, “An Effective Big-Data and Blockchain [BD-BC] based decision support model for Sustainable Agriculture system”, Springer BDCC-19 Coimbatore, Tamil Nadu 2019.
2. Balaji Prabhu B V, M Dakshayini, “Regression based AGRO Forecasting Model”, Springer IEMIS-18. IEM, Kolkata 2018.
3. Balaji Prabhu B V, M Dakshayini “Demand-Prediction Model for Forecasting AGRI-Needs of the society” IEEE ICICI. 23-24 Nov 2017.
4. Balaji Prabhu B V, Vinay Kumar V N, “Cloud based Video Analytics Framework for Effective Traffic Management”, NCAIT-17, SJBIT, Bangalore, 2017.
5. Balaji Prabhu B V, M Dakshayini, “An Effective Cloud-Big Data Analytics Integrated Structure for Smart Agriculture”, Karnataka State Agricultural Engineers Conference, University of Agricultural Science, GKVK, Bangalore, 2016.

Workshops Delivered

1. One day workshop on “Technical Writing”. Organized by Department of ISE, MCE Hassan, on 27 March 2021.
2. Delivered a Technical Talk as a Chief Guest at INNOVICON 2k19 on “Current Trends and Advances in Computer Science and Engineering”. KIT, Tiptur on 2nd April 2019.
3. Two days’ workshop on “Advents in Data Science with R”. Organized by Department of CSE and ISE, TEQIP III, BMSCE, Bangalore. On 18th and 19th October 2019.
4. Three days’ workshop on “Big Data Analytics using Hadoop”. Organized by UVCE, Bangalore. During 5th -7th March 2019.
5. Two days’ workshop on “Teaching Commuter Networking-Hands on Approach Using Cisco Packet Tracer”. Organized by Dept. of ISE, Malnad College of Engineering, Hassan, under TEQIP-III, on 30th and 31st October 2018.

Invited Sessions

- Session Chair at IEEE ICEECCOT-2019 conference, conducted by GSSSIETW, Mysuru on 13-14 December 2019.
- Session Chain at IEEE ICOMBI-2020 International Conference. Conducted by BMSCE, Bangalore during 21-22 2020.

Forthcoming Publications

1. Semantic Segmentation for Tree Crown detection using CNN
2. Satellite image fusion through super resolution using GAN Deep Learning model
3. Multispectral and UAV image fusion using GAN
4. Image super resolution using SR-GAN and ESR-GAN a comparison
5. Urban Growth Analysis using SAR imagery
6. Classification of SAR imagery through Optical images for land use-land cover classification

Proposals Submitted:

1. **“Tomato Grading and Yield Prediction using UAV imagery”**, PI- S N Omkar, Chief Research Scientist, Department of Aerospace Engineering, IISc, Bangalore. CI- **Dr. Balaji Prabhu B V**, Associate Professor, Dept. of ISE, MCE Hassan. submitted to **NABARD- 2021**.
2. **“Forest Monitoring Application to monitor the health of the forest”**, PI- S N Omkar, Chief Research Scientist, Department of Aerospace Engineering, IISc, Bangalore. CI- **Dr. Balaji Prabhu B V**, Associate Professor, Dept. of ISE, MCE Hassan. submitted to **YOKOGAWA-2021**.
3. **“Crop Yield Estimation using Areal Imagery through Deep Learning”**, PI- **Dr. Balaji Prabhu B V**, Associate Professor, Dept. of ISE, MCE Hassan. submitted to **KCTU-2020**.

Projects worked on

1. Time series Analysis of Supply and Price values for Agricultural commodities in Karnataka, India.
2. Regression model for Demand-Supply Analysis and Forecasting.
3. BHUVAN-R: - Worked on developing the R based platform for BHUVAN.
4. Image Super Resolution using GAN: - worked on producing a super resolution images from low resolution images using Deep Learning methods for level 16 and level 17 data of ISRO satellite images.
5. SAR Imagery Classification using Optical Image through Deep Learning: Worked on developing a Deep Learning model for classification of trees, land, water bodies using SAR(sentinel-1) and Optical(Sentinel-2) imagery. Also worked on developing a DL models for urban growth analysis using SAR and Optical imagery.
6. Detection and Rescue of Flood Survivors using UAV through Deep Learning: Worked on developing a Deep Learning model for detection and rescue of people, animals in floods.
7. Crop Yield Estimation using Satellite data through Deep Learning: - working on developing Deep Learning model for crop yield prediction for selected crops in Karnataka, India using satellite data.
8. Multispectral and UAV image fusion by Image Super Resolution using GAN Deep Learning model.
9. Sentinel and Cartosat image fusion using Deep Learning Model.
10. Plant diseases detection using Deep Learning model.
11. Breast cancer detection using Deep Learning.

Workshops Attended

- Two days “Regional Research Symposium on PBL”, Organized by Karnataka State Higher Education Council, Bengaluru (India) in Collaboration with Aalborg Centre for Problem Based Learning in Engineering Science and Sustainability under the auspices of UNESCO, Aalborg University, DENMARK June 18-19, 2021.
- “Break through AI: Multidisciplinary Trends in Engineering and Research”, in Regional Research Symposium on PBL, 19th June 2021.
- Two days Awareness workshop on “NIRF INDIA RANKINGS - 2021 for Higher Educational Institutions” held on-line on 18th & 19th January 2021 by Institute for Academic Excellence

in collaboration with Collegiate Education & Technical Education Department, Govt. of Telangana.

- Two days International Conference on “Transformation in Engineering Education”, (ICTIEE-2021), organized by Indo Universal Collaboration for Engineering Education (IUCEE). 8-10 January 2021.
- Five days’ workshop on “AICTE Training and Learning (ATAL) Academy sponsored FDP on Block chain” from 03-11-2020 to 07-11-2020 at Malnad College of Engineering, Hassan.
- Two-day workshop on “IoT and Data Analytics”, Organized by BITES in association with BMSCE, Bangalore. On 8th and 9th February 2019.
- 15 days FDP on “Queuing Theory and Stochastic Process for Advanced Systems”, BMSCE, Bangalore, during 2-13 July 2018.
- FDP on “Data Science and Communication Networks”, BMSCE Bangalore, during 2-6 January 2018.
- Indian Technology Congress, “Bringing Agri Engineering Innovation to Agriculture Technology”, Bangalore, during 10-11 August 2017.
- Two-day FDP on “Data & Image Compression”, BMSCE, Bangalore, during 12th and 13th March 2017.
- Two days’ workshop on “Use of E-Resources for Teaching and Research”, VTU Belgaum and BMSCE Bangalore, during 4th and 5th May 2017.
- Five days National Hands-on Workshop on Big Data Analytics using R, 18th to 22nd April 2016, SAINTGITS, Kottayam.
- IBM BlueMix, Certification of Enablement, IBM Bangalore on 12th Mar 2016.
- Training on “Hadoop for Big Data Analytics”, C-DAC, Bangalore, during 27-28 June 2016.
- Training on “Analytics using Apache Spark”, C-DAC, Bangalore during 29-30 June 2016.
- SAMAGRA, International Conference on Technology, Sustainability and Social Innovation, BMSCE, Bangalore, during 8th 9th November 2015
- FDP on “Intellectual Property Rights: Significance for Academia”, BMS College of Engineering in Association with Visvesvaraya Trade Promotion Centre (GoK Centre for Export Promotion), Bangalore. On 25th March 2015.
- Three days workshop on “Knowledge Mining using Machine learning and its Applications”, organized by Dept. of ISE, RNSIT, Bangalore, during 23-25 January 2014.
- Three days workshop on “Wireless Sensor Networks: Recent Trends and Applications” organized by Dept. of ISE, RNSIT, Bangalore, during 07-09 November 2013.
- Two days workshop on “Software Testing Lab”, organized by Dept. of ISE and CSE, RNSIT Bangalore, during 21-22 January 2013.

- One day workshop on “Cloud Computing”, conducted by VMWARE Software India Pvt. Ltd. In collaboration with Computer Society of India, co-hosted by GMIT Davangere. On 30th October 2010.

Workshops/Events Organized

- Coordinated CodeON Event, conducted by IIT Khanpur, June 2021.
- Organized technical talks (2 hrs. per week) by various resource persons from industries as a part of the curriculum for 6th-semester students of Information Science and Engineering, BMSCE from Jan 2017 to April 2017.
- Coordinated 5th IACC IEEE Conference held at BMSCE on 12th and 13th June 2015.

Certification (MOOC) Courses

- “Introductory course on Problem Based Learning in Higher Education”, provided by Aalborg Centre for Problem Based Learning in Engineering Science and Sustainability under the auspices of UNESCO. May 2021.
- NPTEL Online Certification on “Python for Data Science” four-week course, January to February 2021. Secured Elite+Sliver badge.
- “Structuring Your Article Correctly”, Elsevier Research Academy, September 2020.
- “How to Peer Review a Review Article”, Elsevier Research Academy, September 2020.
- “Machine Learning” by Stanford, Coursera (12 weeks). Andrew Ng. Certificate Link: https://www.coursera.org/account/accomplishments/certificate/894KCEQZVTBB?utm_medium=certificate&utm_source=link&utm_campaign=copybutton_certificate
- “Introduction to Data Science Specialization” by IBM. Certificate Link: <https://www.coursera.org/account/accomplishments/specialization/AFXUFRN7JVKW>
- “Applied Data Science Specialization” by IBM. Certificate Link: <https://www.coursera.org/account/accomplishments/specialization/7AA8HCEBQSR4>
- “IBM Data Science Specialization”, IBM Data Science Professional Certificate. Certificate Link: <https://www.coursera.org/account/accomplishments/specialization/T3ZT9LK5CGY2>
- “What is Data Science” by IBM, Coursera (4 weeks). Certificate Link: https://www.coursera.org/account/accomplishments/certificate/2H97HNRD9ZC3?utm_medium=certificate&utm_source=link&utm_campaign=copybutton_certificate&utm_term=long
- “Open Source Tools for Data Science” by IBM, Coursera (4 weeks). Certificate Link: https://www.coursera.org/account/accomplishments/certificate/2VYUDZEXGKXU?utm_medium=certificate&utm_source=link&utm_campaign=copybutton_certificate&utm_term=long
- “Data Science Methodology” by IBM, Coursera (4 weeks). Certificate Link: https://www.coursera.org/account/accomplishments/certificate/AYF495DC9YU5?utm_medium=certificate&utm_source=link&utm_campaign=copybutton_certificate&utm_term=long
- “Python for Data Science and AI”, by IBM, Coursera (5 weeks). Certificate Link:

https://www.coursera.org/account/accomplishments/certificate/HLJNPPCRWHL5?utm_medium=certificate&utm_source=link&utm_campaign=copybutton_certificate&utm_term=long

- “Database and SQL for Data Science”, by IBM, Coursera (4 weeks). Certificate Link:
https://www.coursera.org/account/accomplishments/certificate/4UM88KUKVNVK?utm_medium=certificate&utm_source=link&utm_campaign=copybutton_certificate&utm_term=long
- “Data Analysis with Python” by IBM, Coursera (7 weeks). Certificate Link:
Instructor-Joseph Santarcangelo, Ph.D., Data Scientist at IBM. Certificate Link:
https://www.coursera.org/account/accomplishments/certificate/3T39LYHRJLZK?utm_medium=certificate&utm_source=link&utm_campaign=copybutton_certificate
- “Data Visualization with Python”, by IBM, Coursera (4 weeks). Certificate Link:
https://www.coursera.org/account/accomplishments/certificate/LM9NT73FC86N?utm_medium=certificate&utm_source=link&utm_campaign=copybutton_certificate&utm_term=long
- “Machine Learning with Python” by IBM, Coursera (6 weeks). Certificate Link:
https://www.coursera.org/account/accomplishments/certificate/3T39LYHRJLZK?utm_medium=certificate&utm_source=link&utm_campaign=copybutton_certificate

Responsibilities Held

College Level

- IUCEE Student Chapter Faculty Mentor (from 08/01/21 till date).
- SRC Cell Member
- NIRF

Department Level

- MS Team coordinator
- Dept. database coordinator
- Students achievements coordinator
- Placement coordinator
- Dept. meeting proceedings

Professional Membership:

- Word Research Council Membership.

Review Activity

- Reviewer for “IEEE transactions on knowledge and data engineering”. ISSN : 1558-2191.

- Peer reviewer for “IEEE-ICOMBI 2020, February 2020, Bengaluru, India. And reviewed some papers.
- Peer reviewer for The IEEE 2020 International Conference on Decision Aid Sciences and Applications (DASA'20), 2020.

References

1. Dr. S N Omkar, Chief Research Scientist, Department of Aerospace Engineering, IISc, Bangalore. Email id: omkar@iisc.ac.in
2. Dr. M Dakshayini, Professor & Head, Department of Information Science and Engineering, BMS College of Engineering, Bangalore, India. Email id: dakshayini.ise@bmsce.ac.in
3. Dr. Ramesh Kestur, Senior Research Fellow, International Institute of Information Technology Bangalore (IIITB).

Personal Details

Nationality:	Indian
Date of Birth:	17/01/1988
Marital Status:	Married
Address for communication:	Baluvaneralu Tiptur Tq. Tumkur Dt. 572217.

Other Interests: Farming, Swimming, Cooking, Traveling and Trekking.

The information contained herein is true to my knowledge.

Dr. Balaji Prabhu B V