

Dr. BHARATHI PILAR

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ACADEMICS

- 1. Post-Doctoral Research work (PDF) at Medical Intelligence and Language Engineering (MILE) Lab at Indian Institute of Science (IISc), Bangalore under the guidance of Prof. A. G RamaKrishnan from 5th June 2019 to 4th June 2020 (One Year).**

Title: Development of Kannada Speech to Text (Automatic Speech Recognition) System using Deep Neural Network and Stochastic Graphical Models

- 2. Ph.D (with course work, GPA 8.90 - 86.80 %) in Image processing and Pattern Recognition from Mangalore University under the guidance of Dr B H Shekar, August 2017.**

Title: Morphology Based Algorithms for Shape Representation and Classification.

- 3. UGC-NET (Computer Applications), July 2012.**
- 4. M. Phil in Computer Science from Alagappa University, Tamilnadu, India, June 2010. Dissertation: Analysis and Implementation PCA algorithm for face recognition System**
- 5. Masters of Science (M.Sc) Computer Software from Mangalore University, Karnataka, 2001 (Secured Third Rank with 82% Marks).**

Project: A TEN-month project titled "SNMP SUPPORT ON ITRAN: INTERNET TRAFFIC ANALYZER" at WIPRO Technologies, Bangalore.

- 6. B.Sc (Bachelor of Science) in Computer science, University College Mangalore, Affiliated to Mangalore University, 1999. (Secured 83% Marks)**
- 7. Secured 86.68 % in SSLC , Bharathi High School, Ullal**
- 8. Published around 20 Research papers in International Journals and Conference proceedings indexed in Scopus, WOS, DBLP, Google Scholar etc.**
- 9. Currently working as Officer on Special Duty to Vice Chancellor of Mangalore University**

AWARDS AND RECOGNITION

1. Awarded “**ACPR-2015 BEST DOCTORAL CONSORTIUM AWARD**” for the research work in Computer Science at Asian Level in “Third Asian Conference on Pattern Recognition (ACPR-2015), Doctoral Consortium held in **Kuala Lumpur, Malaysia**, from 3rd November 2015 to 6th November 2015.
2. Received **Best paper award** in an International conference on Advanced IT Engineering and Management SACAIM-2017, held at AIMIT Beeri in November 2017.

INTERNATIONAL EXPOSURE:

1. Visited **RUSSIA** to attend and present a research paper titled “**Block-wise Binary Pattern: A Robust and an Efficient Approach for Offline Signature Verification**” in an International Conference “Photogrammetric and computer vision techniques for video Surveillance, Biometrics and Biomedicine” held from 15th to 17th May, 2017 at **Moscow, Russia**.
2. Visited **MALAYSIA** to attend International Conference “**Third Asian Conference on Pattern Recognition (ACPR-2015)** and to participate in **ACPR-2015 doctoral consortium** held in **Kuala Lumpur, Malaysia** from 3rd November 2015 to 6th November 2015 and received the **best doctoral consortium award** in Asian level.

PROFESSIONAL EXPERIENCE:

1. Working as Assistant Professor in the Department of Computer Science at University College Mangalore (**6.9 years**, November 2013 - till date).
2. Worked as Assistant Professor in the Department of MCA, at Aloysius Institute of Management and Information Technology (AIMIT), St. Aloysius College (Autonomous), Beeri, Mangalore (**9 Years**, March 2002 to October 2013).
3. Worked as **project Trainee** for TEN months at **Wipro Technologies Bangalore** from June 2000 to April 2001.

Total Teaching Experience: 15.9 Yrs (9 Yrs PG + 6.9 Yrs UG)

RESEARCH RECOGNITION

1. Reviewer for the following IEEE, ACM and ELSEVIER Journals

- i. Journal of **PATTERN RECOGNITION**
- ii. **IEEE TRANSACTIONS ON NEURAL NETWORKS AND LEARNING SYSTEMS**
- iii. **ACM TRANSACTIONS ON ASIAN AND LOW-RESOURCE LANGUAGE INFORMATION PROCESSING (TALLIP).**

2. International Conference - As Technical program committee member

- a. Served as Reviewer **DAL-2018**, First International Conference on Data Analytics and Learning, **Mysore**.
- b. Served as Reviewer for **RTIP2R-2018**, The Second International Conference on Recent Trends in Image Processing & Pattern Recognition, **Solapur, Maharashtra**
- c. Served as **Reviewer and Session chair** for sessions on Image Processing, Computer Vision and Pattern Recognition in Third International Symposium on Computer Vision and the Internet –**VisionNet’16** held at LNM Institute of Information Technology **Jaipur, Rajasthan, India** during 21st – 24th September 2016.
- d. Served as **Reviewer and Session chair** for sessions on Pattern Recognition, Signal and Image Processing in Fourth International Conference on Advances in Computing, Communications and Informatics (ICACCI-15) held at SCMS School of Engineering and Technology, **Kochi, Kerala** during 10th to 13 August 2015.
- e. Served as **Reviewer** for Third International Symposium on Women in Computing and Informatics (**WCI-2014**) Greater **Noida, New Delhi, India**.
- f. Served as **Session Chair** International conference on Advanced IT, Engineering and Management, **SAC AIM 2013, Mangalore, India**
- g. Served as **Reviewer and Session Chair** National conference on Advanced IT, Engineering and Management, **SAC AIM 2012, Mangalore, India**.

MEMBER OF BOARD OF STUDIES / EXAMINATION

1. BOE and BOS member of AIMIT, St. Aloysius College (Autonomous), Beeri.
2. BOE and BOS member of St. Agnes College (Autonomous), Mangalore.
3. BOE and BOS member of Mangalore University (BSc), Mangalore
4. Served as BOE member of Correspondence MS Programme in Information Technology, Mangalore University.

ADMINISTRATION

1. Served as **NSS PROGRAM OFFICER** of University College Mangalore from June 2016 to June 2019
2. Served as the **COORDINATOR** of Red Ribbon Club from June 2017 to June 2019.
3. Served as **DEPUTY CHIEF SUPERINTENDENTS (DC)** of the Examination of the Semester Exam in Rosario College during April May 2017 Exams.
4. Served as **MASTER TRAINER of Election** in May 2017 **Assembly Election** and May 2019 **Lok Sabha Election**.
5. Served as **LOCAL OBSERVER** of UGC-NET exam conducted by CBSE, Delhi held on 5-11-2017.
6. Served as member of **FLYING SQUAD** of the Degree semester examination of Mangalore University during April-May 2018
7. Mangalore University Nominee for the **Administrative Board** of
 - a. Rosario College of Management Studies
 - b. Sarosh Institute of Hotel Administration Managlore
 - c. Government First Grade College Vamadapadavu
8. **Working as the Member of following College Committees**
 - a. Member of Admission committee since May 2016.
 - b. Member of Internal Assessment committee since May 2016.
 - c. Member of Attendance shortage committee since May 2016.
 - d. Member of Exam Room allotment committee since 2014.
 - e. Member of College Talents day Committee since May 2016.

INVITED TALKS IN WORKSHOPS/ SYMPOSIUMS / CONFERENCES

1. Served as a resource person in the "**Research Methodology**" workshop at Mangalore Institute of Professional Studies (MAPS) on 22nd Dec 2015 and taken up session titled "**Research design formulation and Testing of hypothesis**".
2. Delivered a talk on "**Morphology based Shape Representation and Classifications**" during the 5th International Conference on Advances in Computing, Communications and Informatics (**ICACCI'16**) held at LNM Institute of Information Technology, **Jaipur**, Rajasthan during Sept 21-24, 2016.
3. Delivered an invited talk on "**Natural Language Processing**" at Acharya Institute of Management and Sciences-**AIMS Bangalore** on 12th Nov 2017.
4. Delivered an Invited talk on "**Artificial intelligence and its Application**" at Acharya Institute of Management and Sciences (**AIMS**) **Bangalore** on 22nd November 2014
5. Delivered an Invited talk on "**Computational Challenges in Machine Learning**" at **KVG Engineering college, Sullia** on 24th November 2017

6. Inaugurated One day orientation program of National Service Scheme (NSS) and delivered a talk on **“Importance of NSS in the development of Self and Society”** in a on 24-07-2018.
7. **Inaugurated** One day National Seminar on Machine learning and delivered Inaugural speech and also participated as the resource person and delivered a talk on **“Machine Learning Techniques and Applications”**, Organized by Assumption College of **Chenganacherry, Kerala** on 4th Feb 2019.
8. Delivered an invited talk on **“Natural Language Processing and Expert Systems”** at Acharya Institute of Management and Sciences-**AIMS Bangalore** on Nov 2019.
9. Delivered an invited talk on **“Compiler design: Tools and Techniques”** at East Point Engineering College, **Bangalore** on 24th March 2019.
10. Delivered a invited talk on **“Opportunities for Youth on Nation Building”** in a NSS Camp organized by **Dr. M.V Shetty Memorial College of Nursing**, held at **Sharada Ganapathi Vidya Kendra, Kairangala** on 8th Feb 2019.
11. Delivered invited talk on **“After SSLC what next”** and also **“How to strengthen your mind”** at Govt Composite PU college, High School section **Balmatta Mangalore** on 7-03-2019
12. Delivered a talk on **“Natural Language Processing: Challenges and opportunities”** in a **National Level Webinar** on “Artificial Intelligence and Machine Learning” at **University College Mangalore on 03rd July 2020.**
13. Delivered a talk on **“Natural Language Processing and Expert Systems”** in a **Inter National Level Webinar Series** on “Emerging Trends in Intelligent Computing and Informatics” at **Assumption College (Autonomous) at Chenganacherry, Kerala** on 17th August 2020.

TRAINING PROGRAMS/CONFERENCES ORGANIZED

1. Organized a National level Webinar on **“Artificial Intelligence and Machine Learning”** on 3rd August 2020 at University College Mangalore.
2. Organized an International level Webinar Series on **“Emerging Trends in Intelligent Computing and Informatics”** on 28th August 2020 at University College Mangalore.
3. Organised **7 DAYS LEADERSHIP TRAINING PROGRAM**
 - a. RYLA-2017 and **served as a trainer**, held from 18th Nov 2017 to 24th Nov 2017 at University College Mangalore and Tree Park, Thannerbavi, Karnataka, India
 - b. RYLA-2018 and **served as a trainer**, held from 7th Dec 2018 to 13th Dec 2018 at University College Mangalore and on day outbound activity at Dr. Shivarama Karantha Nisargadhama, Pilikula. Karnataka, India.
4. Organized **7 DAYS NSS CAMP**

- a. at KARIYANGALA GRAMA in association with SRI RAMAKRISHNA THAPOVANA POLALI .
 - b. at MUDUSHEDDE GRAMA in association with DR. SHIVARAMA KARANTHA NISARGADHAMA PILIKULA held from.
 - c. at KARIYANGALA GRAMA Panchayath in association WITH SRI RAMAKRISHNA THAPOVANA POLALI held from.
5. Organized **COMPUTER TRAINING PROGRAM**
- a. “Bridge-16” a **7-day training program bridging Biology and Computer Science** for BSc students from 23rd - 30th June 2016 (Summer Vacation) at University College Mangalore and **served as a trainer**, non-Computer students have been given computer training and Computer students have been trained with web technology.
 - b. **“Smart-15”**, for non-computer Science students from 15th Dec 2015 to 29th Dec 2015 at University College Mangalore. Karnataka, India.
6. Organised 2 days **NATIONAL LEVEL CONFERENCE / COLEGE FEST ON**
- a. **on advanced IT Engineering and Management, SACAIM – 2012** organized by IT Dept of AMIT, St Aloysius College Mangalore on 6th and 7th Sept 2012
 - b. **on advanced IT Engineering and Management, SACAIM – 2012** organized by IT Dept of AMIT, St Aloysius College Mangalore on 6th and 7th Sept 2012
 - c. **“EPITOME-XIII-Clash of Warriors”- A National level Intercollegiate IT fest**” held on 14th and 15th March 2013.

COMMUNITY SERVICE

1. Organized **COMPTER TRAINING PROGRAM**
 2. For the students of Bokkapatna Govt higher primary school. Every Thursday trained the students Basics of Computers and MS Office.
 3. For the 200-lady participants of Jnana Vikasa Kendra As a part of **“Vittiya Saksharatha Abhiyana”** and also served as a trainer from 1st Jan and 4th Jan 2017.
 4. For the students of Polali Primary School, Kariyangala Grama panchayath from 30th Nov to 4th Dec 2016
5. **VILLAGE EXPOSURE - AGRICULTURAL RELATED :**
- a. 2.5 Acres of barren land has been converted Agricultural land at Balluru village, Polali by our NSS unit (Activities including Cuttng, Stacking and Threshing).
 - b. Paddy fied work (NEJI) program at Kallimaru Village Konaje.

6. Organized **BLOOD DONATION CAMP**

- a. At University College Mangalore and Collected 103 units of blood in 2016.
- b. At University College Mangalore and Collected 147 units of blood in 2017.
- c. At University College Mangalore and Collected 152 units of blood in 2018.

7. Organized **AWARENESS PROGRAM/RALLIES/JANA JAGRUTHI ABHIYANA and STRRT PLAYS on**

- a. AIDS and CANCER
- b. ROAD SAFETY
- c. PLASTIC FREE VILLAGES
- d. SWACHCH BHARATH
- e. ORGAN DONATION
- f. VITTIYA SAKSHARATHA ABHIYANA – Towards The Cashless Society
- g. ANTI DRUG ABUSE and HUMAN TRAFFICKING
- h. BET BACHAO BETI PADAVO
- i. SAVE PLANTS _ SAVE EARTH
- j. HADIHAREYADA MANASIKA SAMASYEGALU – Psychological Imbalance in Youths

STUDY VISIT AND FIELD VISIT

1. **FACULTY INCHARGE** (Lady) for the GEOGRAPHICAL STUDY TOUR to Mysore and Bangalore, from 20th March to 23rd March 2016.
2. Served as **STUDENT GUIDE** and Escorted students to a STATE LEVEL SCIENCE MODEL competition on 1st April 2016 to 2nd April 2016 at regional Institute of Education, Mysore and students received state level consolation prize for the model.
3. Participated in the Open house program representing University College on 13th April 2016 in program organized by **HELP INDIA FOUNDATION** at Unity Hall, Kallapu.
4. **FACULTY INCHARGE** (Lady) for the GEOGRAPHICAL STUDY TOUR to Thiruvananthapuram and Kanyakumari from 7th January to 12th January 2017.

ATTENDED REFRESHER/ORIENTATION/WORKSHOPS / SEMINARS

1. Attended UGC sponsored 28 days **Orientation program** at Academic Staff College, University of Mysore during 24-12-2014 to 20-01-2015.
2. Attended UGC sponsored 21 days **Refresher Course** at University of Calicut, Kerala 10-08-2016 to 30-08-2016.
3. Attended NSS-ETI **training program for NSS programme** officers at Mysore University, from 1st July 2016 to 7th July 2016.
4. Attended **Life Skills Training workshop** at NIMHANS Bangalore held

during 17-19th November 2016 and 15-17th November June 2017.

5. Attended UGC sponsored two phased 6 days training program, “**Counseling Skills for College Teachers**” at School of Social Work, Roshani Nilaya Mangalore held during 29-05-2017 to 03-06-2017
6. Attended a **TWO WEEKS Faculty development program (FDP)** on “**Pattern Recognition and its Applications**”, From 8th – 20th July 2013, Organized by Computer science and Engineering , Sunder Deep group of Institutions, Ghaziabad, (U.P)
7. Attended 5 **days ONE-WEEK Workshop** on “**Emerging Trends in Image and Video Processing**”, Organized by Department of Computer science and Engineering, Nitte Meenakshi Institute of Technology Bangalore, from 21st– 25th January 2013
8. Participated **National Level Conference on Data Science and Business Analytics** organized by IT Dept of AMIT, St Aloysius College Mangalore on 9th May 2012
9. Participated in the **National conference on “Recent trends in computational sciences and Engineering”** on Feb 2011 at KVG college of Engineering, Sullia
10. Attended One day Workshop on “**Samvidhana Odu Workshop**” on 23-01-2019 at University college Mangalore.
11. Participated in Gyan Training Program on “Digital Payment Technologies for Cashless Society” held from 23-07-2018 to 27-07-2018 at Mangalore University Konaje.
12. Attended two days Electoral Literacy Club – **Voting awareness training program** at Jilla Panchayath Mangalore organized by district institute of education and training (DIET), Mangalore, from 4-4-2019 to 05-4-2019.
13. Attended “A **ONE-WEEK** National level online Faculty development program (FDP) on “**Internet of Things and Artificial Intelligence Applications**” held from 1st June 2020 to 6th June 2020, Organized by Department of Computer Engineering, K I Deemed to be University, Vaddeswaram, Gunturu, Andra Pradesh.

MEMBERSHIP OF PROFESSIONAL BODIES

1. Life Member, The Indian Science Congress Association
2. Life Member, KRVP- Karnataka Rajya Vijnana Parishath

HOBBIES:

1. Writing Poems and reading Kannada Literature
2. The kannada poem “ Kele Nee Yashodhare” has been selected for State level Kavigoshti at Hanagal.

LIST OF PUBLICATIONS:

International Journals:

Published:

1. **Bharathi Pilar**, “Offline Signature Verification Based on Spatial Pyramid Image Representation with Taylor Series”, “Communications in Computer and Information Science (CCIS)” February 2021, Springer Nature Singapore Series, Volume 1365. Pp. 66-74. ISSN: **1865-0929**
2. **Bharathi Pilar**, B.H Shekar, Sunil Kumar D S, “Multi Scale Local Binary Pattern – A Novel Feature Extraction Technique for Offline Signature Verification”, Communications in Computer and Information Science (CCIS), July 2019, Springer Nature Singapore Series, Volume 1037, pp. 140-148, ISSN: **1865-0929**
3. B.H Shekar, **Bharathi Pilar***, Sunil Kumar D S, “Offline Signature Verification based on Partial Sum of Second Order Taylor Series Expansion”, Lecture Notes in Networks and Systems (LNNS), November 2018, Springer Nature Singapore Pte Ltd. Volume 43, pp. 359-367, ISSN: **2367-3370**. (* is corresponding Author)
4. **Bharathi Pilar**, B.H Shekar, “Circular Map Pattern Spectrum - An accurate Descriptor for Shape Representation and Classification”, Lecture Notes in Networks and Systems (LNNS), November 2018, Springer Nature Singapore Pte Ltd. Volume 43, pp. 207-219, ISSN: **2367-3370**
5. B.H Shekar, **Bharathi Pilar***, "Discrete Cosine Transformation and Height Functions based Shape Representation and Classification", Published in Int. Journal of Procedia Computer Science, 2015, volume 58, pages: 714- 722. ISSN: **1877-0509**. (UGC Approved Journal with Journal no: **48229**). (* is corresponding Author)
6. **B. H. Shekar, Bharathi R.K, Bharathi Pilar**, “Local Morphological Pattern Spectrum Based Approach for Off-line Signature Verification”, Published in Lecture notes in Computer Science Springer Berlin Heidelberg, December 2013, Volume 8251, pp 335-342. ISSN: **0302-9743**.
7. B.H Shekar, **Bharathi Pilar***, Sunil Kumar D S, “Blockwise Binary Pattern: A Robust and An Efficient Approach for Offline Signature Verification" Published in International Archives of the Photogrammetry, Remote Sensing & Spatial Information Sciences, May 2017, pp 227–232, volume 42, ISSN: **1682-1750**
8. **Bharathi Pilar**, B.H Shekar, “Hough and Binary Pattern based descriptor for 2D shapes”, International Journal of Latest Trends in Engineering and Technology Special Issue SACAIM 2017, pp. 029-033, ISSN: **2319-3778**, e-ISSN: **2278-621X**.
9. **Bharathi Pilar**, B.H Shekar, “Eigenvalue Analysis with Hough Transform for Shape Representation and Classification” Published in sub series of Lecture notes in Computer Science (LNCS) -Communications in Computer and Information Science (CCIS), April 2018, Springer Singapore, volume 801, pp. 299-312, ISSN No: **1865-0929**.

International Indexed Publications: (Indexed into Scopus, Web of Science, DBLP etc.)

Published

1. Archil Maysuradze, **Bharathi Pilar**, and B. H. Shekar “A Novel Metric Combination Approach for Verification Problems”, Published in the Proceedings of XX International Conference”, Data Analytics and Management in Data Intensive Domains (DAMDID/RCDL’2018)”, October 2018, pp. 63-67, Volume 2277, **ISSN No. 1613-0073**, at Moscow, Russia.
2. **Bharathi Pilar**, B.H Shekar, “Eigenvalue Analysis with 2D-DCT and BBP for Shape Representation and Classification”, Published in the Proceeding of Third International Symposium on Computer Vision and Internet (VisionNet’16), **ACM** September 2016, **ISBN No. 978-1-4503-4301-5**, pp. 30-35, **DOI: 10.1145/2983402.2983414**, at LNMIIT Jaipur, Rajasthan, India.
3. **Bharathi Pilar**, B.H Shekar, “An integrated approach of Radon Transform and Block-wise Binary Pattern for Shape Representation and Classification”, Published in Proceedings of International Conference on Advances in Computing, Communications and Informatics (ICACCI’16), at LNMIIT Jaipur, Rajasthan, India, **IEEE**, September 2016, **ISBN: 978-1-5090-2029-4**, pp. 1976-1982, **DOI:10.1145/2983402.2983455**.
4. B.H Shekar, **Bharathi Pilar**, "Shape Representation and Classification Based on Discrete Cosine Transformation and IDSC", Published in the Proceeding of the Third International Symposium on Women in Computing and Informatics (WCI’15), at SCMS, Kochi, India, **ACM**, August 2015, **ISBN: 978-1-4503-3361-0**, pp. 341-347, **DOI: 10.1145/2791405.2791488**.
5. B. H Shekar, **Bharathi Pilar**, and Josef Kittler, “An unification of Inner Distance Shape Context and Local Binary Pattern for Shape Representation and Classification" Published in Proceedings of the 2nd International Conference on Perception and Machine Intelligence (PERMIN’15) at CDAC Kolkata, India, **ACM**, February 2015, **ISBN: 978-1-4503-2002-3**, pp. 46-55, **DOI:10.1145/2708463.2709062**.
6. B. H Shekar, **Bharathi Pilar**, “An ensemble of morphology-based Pattern Spectrum and Height functions for shape representation and classification” Published in Proceedings of 2014 International Conference on Advances in Computing, Communications and Informatics (ICACCI’14), **IEEE**, November 2014, **ISBN: 978-1-4799-3078-4**, pp. 2264-2272, **DOI: 10.1109/ICACCI.2014.6968428**.
7. B. H Shekar, **Bharathi Pilar**, “Shape representation and classification through Height functions and Local Binary Pattern-a decision level fusion approach.” Published in Proceedings of 2014 International Conference on Advances in Computing, Communications and Informatics (ICACCI’14), **IEEE**, December 2014, pp. 2481-2488, **ISBN : 978-1-4799-3078-4**, **DOI: 10.1109/ICACCI.2014.6968428**

8. B. H Shekar, **Bharathi Pilar**, “A decision level fusion of morphology-based Pattern Spectrum and IDSC for shape representation and classification.” Published in Proceedings of 2014 International Conference on Contemporary Computing and Informatics (IC3I’14), IEEE, January 2015, pp. 908-914, **ISBN: 978-1-4799-6628-8, DOI: 10.1109/IC3I.2014.7019663.**
9. B. H Shekar, **Bharathi Pilar**, “Shape Representation and Classification through Pattern Spectrum and Local Binary Pattern–A Decision Level Fusion Approach”, Published in 2014 Fifth International Conference on Signal and Image Processing (ICSIP -2014), IEEE, March 2014, pp. 218-224, **ISBN: 978-0-7695-5100-5, DOI:10.1109/ICSIP.2014.41.14199001.**
10. **Bharathi Pilar**, B. H Shekar, “A shape Descriptor on Local Eigen value with 2D Discrete Cosine Transformation”, Published as a chapter in “Frontiers of research in Mathematics, Statistics and Computer Science”, UGC – HRDC –University of Calicut, August 2016, pp 86-94, **ISBN No: 978-8-1910-7062-7**

(BHARATI PILAR)