# Curriculum Vitae



## Dr. V.BALAJI

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## Career Objective:

Seeking an opportunity for an innovative and challenging working environment that will utilize my education and skill and offering opportunities for learning and advancement.

## Academic Qualification:

- **Doctor of Philosophy (Ph.D.-CSE),2022**
  Pondicherry University, Puducherry, India.

- **Master of Computer Application, 2010-2013**
  Pondicherry University, Puducherry, India.

- **Bachelor of Computer Application , 2006-2010**
  Pondicherry University Community college, Puducherry, India.

## Work Experience

1. Working as an Assistant Professor at Gandhi Institute of Technology and Management (GITAM) University,Bengaluru, Karnataka, India (July 2022 to Till)

2. Worked as an Assistant Professor at the Amrita Vishva Vidyapeetham University, Mysuru, Karnataka, India (Nov 2021 to April-2022)

3. Worked as a lecturer for PG courses at pondicherry University, India (1-Year)

4. Worked as a Consultant at Government E-Marketplace, (Part-Time), India (2-Year).

5. Worked as a Post Graduate teacher at the study lecole internationale,Puducherry, India (Sept 2020 to 31 Aug 2021)

6. Worked as a lecturer for Computer Science & ICT Smart Class Teacher upto 12th Standard at Sri Aravindhar Higher Secondary School, Puducherry, India (1-Year, 2013-2014).

7. Worked as a Puducherrry District secretary of Saksham Organization (National level differently-abled seva organization ) registration number MAH/654/2008(N) (http://sakshamseva.org/) (2016-2019) India.

8. Worked as a Research and Development Co-ordinator of Saksham Organization (National level differently-abled seva organization ) registration number MAH/654/2008(N) (http://sakshamseva.org/) (2018-2019), India.

## Other Academic Qualification:

- **Certification Course from Deque University**

1. Designing-an-Accessible-User Experience Course Completion
2. MS-PowerPoint Accessibility Techniques Course Completion
3. MS-Word Accessibility Techniques Course Completion
4. PDF-Accessibility Techniques Course Completion.
5. IAAP-CPACC-Certification Preparation Course Completion

## Areas of Interest

*Human-Computer Interaction, UAV-Drone Technology(DJI Matrice 600), Accessible Computing, IoT, Artificial Intelligence, Machine Learning, Data Science with Python.*

*Robotics Technolgy(Hybrid), Assistive Technologies, Web Accessibility, WCAG2.0, Section 508, GIGW, MWBP.*

## Achievements & Awards

- Received a **National Award** from **Honorable President of India Shri Ram Nath Kovind for "Best Applied Research and Technical Innovation for aimed to improving the life of person with disabilities"** in the year 2017 from **Ministry of Social Justice, Government of India**.

- Received a **State Award** for **Best Individual serving for the cause of persons with disabilities** in year 2015 from **Department of Social Welfare, Government of Puducherry, India**.

- Received a **Dheyepurti Puraskar National Award** for **Best Individual serving for the cause of persons with disabilities** in year 2019 from **Nutan Gulgule Foundation, Mumbai, India**.

- Received a **Bharathi Award** from Puduvai Kavaithai vanil organization for representing and Pondicherry Disabilities cricket team player selected as **Indian national team and IDPL (Indian Disabilities Premier League, India)**.

- Received a **Best Social Service Award** from swamy vallalar foundation, puducherry, in year 2021.

- Secured 1st place in event "Shine11" in the National level Technical Symposium conducted by Sacred Heart College Accredited with NAAC A Grade, Tirupattur, India.

- Participated "Anvaya11" National Level Technical Symposium conducted by Ethiraj College for Women, Chennai, India.

- Got 1st place in State Level Science Exhibition conducted by Puducherry Government and Indian Science Association at Puducherry, India.

## Teaching Interests

Robotics Technology, Assistive Technologies, Human-Computer Interaction, Accessible Computing, Internet of Things (IoT), Cognitive Science, Database Management System, Computer Network, Cyber Security, Software Engineering, OOAD, OOPS.

## Subject Handled

Artificial Intelligence, Accessible Computing, Human-Computer Interaction, Data Mining, Operating system, Web Technologies.

## Ph.D Research Experiences

**Supervisor:** Dr. K. S. Kuppusamy, Pondicherry University, India

**Thesis Title:** Web Accessibility Evaluation and Amelioration of Information Retrieval for Persons with Disabilities.

**Details:** The objective of this research is to build accessible Search Engine information retrieval model focused on the persons with Disabilities.

Total Number of Years in Ph.D Research : 6 Years (Full Time)

**Awards:** Received **National Award** from **Honourable President of India Shri Ramnath Kovind** for "Best Applied Research and Technical Innovations" of my PhD work.

## Masters Project:

**Topic:** Web based Chemical Structure Information Management System.

**Advisor:** Prof. G.Aghila, Dept of Computer Science, School of Computer Engineering and technology, Pondicherry University, India.

**Details:** Prof. G.Aghila is Present Director of NIT-Trichy.

**Details:** The aim of this project is to Web-based chemical management Information Systems constitute a category of Web applications. The particularity of these Web applications, unlike catalog web sites for instance is that they allow to collect, structure, store, manage and diffuse information, like traditional Information Systems in Web infrastructure.

## On- Going Projects at GITAM University

**Topic:** Accessible 3D Virtual Avatar based way finding navigation using QR code for the Person with Hearing challenged.

**Sanctioned Amount:** Rs : 30000/-

**Lead:** Dr. V. Balaji PhD, Assistant Professor, GITAM University, Bengaluru, India.

**Details:**To facilitate way finding, a QR code which has the sign language video encoding regarding the navigation information shall be placed at various locations in the campus under consideration. The users can simply scan these QR codes with mobile application and the encoded Indian sign language video would be played back in the user's mobile phone which would assist the person with hearing impairment.

## Past Projects

**Topic:** Chennai Purchase Online Info

**Advisor:** Dr. Venniraiselvi M.Phil, PhD, Pondicherry University, India.

**Details:** This system provides a friendly interface and flexibility to the users of the system. Using this online system the users can able to find and compare the best Shoppe in around Chennai.

## Web Projects - 1

**Topic:** Sri Arvindhar School Website

**Details:** This project developed and dedicated to the Sri Arvindhar School, Pondicherry, India

## Accessibility Projects - 2

**Topic:** Accessibility Consulting to the Government Websites

**Details :** This project aimed to provide public information accessible to the citizens of India.

## Dedicated to Govt of India - Projects - 3

**Topic:** UDID - Unique Disability Identity Card (Mobile Application). Inclusive mobile application development for Person with Disabilities.

**Details :** This project aimed to provide Unique Disability Identity Card online registration via mobile application to the PwD's citizens of India.

## Digital Accessibility Audit - Govt of India -Projects - 4

**Topic:** Indian Railway website Accessibility Audit.

**Details :** This project aimed to provide better Accessibility features to the citizens of India.

## Funding Proposal submitted to SERB-SURE

**Topic:** Computer Vision-Based Yoga Pose Recommendation Approach Using Contrastive Skeleton Feature for the Person with Disabilities

**Budget :** 2934000 -Lakhs

**Agency :** DST (Dept of Science and Technology)

**Status: Awaiting for Final Result**

## Funding Proposal Submitted to VGST - Govt of Karnataka

**Topic:** Augmenting Cultural Experience: Digitally Strengthen the Indian Historical and Tourism Places using Augmented Reality Technology

**Budget :** 1997780 -Lakhs

**Agency :** VGST (Vision Group of Science and Technology)

**Status: Short Listed - Awaiting for Final Result.**

## Computer Skills

- *Programming Languages* - Python, Java, C-Language, PHP
- *Smart Class Environment*- Interactive board, Short throw projector, Digital Podium.
- *Writing Skill* - Report Writing, Research Paper & Software requirement specification
- *Designing Skill* - Webpage, UML
- *Software Packages*- Netbeans, MS Office, LaTeX
- *Databases* - MySQL , RDBMS , Hadoop, AWS
- *OS* - Linux (Ubuntu), Windows, iOS
- *Research tool* -  LaTex, Overleaf, SPSS, Thonny
- *Accessibility Guidelines* - WCAG 2.0, GIGW, MWBP.
- *ACTs known* - Section 508, RPwD 2016.

## Member and Activities

1. Reviewer of **EAI/Springer book**, Innovations in Communications and Computing Book series "**Technological Trends in Improved Mobility of the Visually Impaired**".

2. Life Member of Indian Science Congress (Membership No: L28486).

3. Member of Scribe, Reader forum Pondicherry University, Puducherry, India

4. Member of Accessible Innovation forum in Pondicherry university,Puducherry, India

5. Worked as a Volunteers for various differently-abled events and activities.

# International Journal Publications

1. K. S. Kuppusamy., Balaji, V. "**Evaluating Web Accessibility of Educational Institutions Websites Using a Variable Magnitude Approach**", Universal Access in the Information Society, **Springer (SCI-E)**. Impact factor 3.87.

2. Balaji, V., Nengroo, A. S., Kuppusamy, K. S. (2020). **3D PARSER: Three-Dimensional Profile-based Search Engine Re-ranking Model for Persons with Disabilities**. Solid State Technology, 63(6), PP. 11468-11508, ISSN 0038-111X.

3. Balaji, V., and K. S. Kuppusamy. "**Accessibility Analysis of Multilingual Websites for Persons with Visual Impairments**", International Journal of Scientific Research in Computer Science, Engineering and Information Technology (2017).

4. Balaji, V., and K. S. Kuppusamy "**QR code based way-finding application for Hearing impaired**", International Journal of Applied Engineering Research (IJAER), (2016).

# International Conferences Publications

1. Kuppusamy, K. S., V. Balaji, and K. Balamurugan. "**Personalized accessibility based Re-ranking of Search Engine Results (PARSER).**" Intelligent Systems and Control (ISCO), 2016 10th International Conference on. IEEE, 2016.

2. Balaji, V., and K. S. Kuppusamy. "**Accessibility Evaluation of Indian Railway Websites.**" Proceedings of the International Conference on Informatics and Analytics. ACM, 2016.

3. Balaji, V., and K. S. Kuppusamy. "**Accessibility analysis of e-governance oriented mobile applications.**" Accessibility to Digital World (ICADW), 2016 International Conference on. IEEE, 2016.

4. Balaji, V., K. S. Kuppusamy, and Shaikh Afzal. "**VIBI: A Braille Inspired Password Entry Model to Assist Person with Visual Impairments.**" International Conference on Intelligent Information Technologies. Springer, Singapore, 2017.

5. Balaji, V., and K. S. Kuppusamy. "**Towards accessible mobile pattern authentication for persons with visual impairments.**" Computational Intelligence in Data Science (ICCIDS), 2017 International Conference on. IEEE, 2017.

6. Balaji, V., and K. S. Kuppusamy. "**A Survey of Digital Accessibility Tools and Techniques in the Indian Context.**" International Conference on Challenging Exclusion (ICCE), 2018.

7. Balaji, V., and Gunikhan Sonowal. "**UDID - An Inclusive Mobile Application for Unique Disability Identity Card Registration**" International Conference EMPOWER 2022 Organized by IIT Madras.

## International Journals Submitted

1. Balaji, V. and K. S. Kuppusamy. **Enhancing the effectiveness of web information communication by fine tuning accessibility – A Case Study with E-Governance websites of Government of Tamil Nadu** ICT Journal.

2. Balaji, V. and K. S. Kuppusamy. "**Accessible Multilingual Audio based Image Alternative (ALT) Description for the Persons with Visually Impairments**" Universal Access in the Information Society, Springer.

## International Book Chapters Accepted

1. Balaji, V., Gunikhan Sonowal "**Artificial Intelligence for Cyber Security**", Title: SMS Detection based on Neural Networking Model-Springer.

## International Book Chapters Submitted

1. Balaji, V., "**Future Communication Systems (FComm)**", International Journal of Smart Vehicles and Smart Transportation,CFP SCOPUS - Portugal - MIC-FutureCom 2020 in Porto - EAI/Springer.

2. Balaji, V., "**EAI Endorsed Transactions**", ICT applications enabling Energy-aware, smart and sustainable mobility solutions for Smart Cities. - Instituto Politécnico de Viana do Castelo, Portugal, EAI/Springer.

## Workshop Attended and Participated

– Participated Two days National conference on "Rights of Persons with Disabilities Act(RPwD-Act 2016) Role of Information Communication Technology", conducted by HEPSN and NIEPMD

– Participated "PYSQUARE" **Python workshop** organized by Department of Computer Science, Pondicherry University on 2019.

– Participated TEQUIP PEC **Big-Data workshop** held at Pondicherry Engineering College.

– Participated NIEPMD conducted workshop at "Implementation of RPWD Act 2016: Role of Stakeholders" held at pondicherry university on 07th febraury 2018.

– Participated National seminar on "The Road Map of Effective Implementation of RPwD Act 2016" held at pondicherry university on 17 th May 2018.

– Participated Three days Training Program on "Accessible Technologies for Persons with Disabilities" held at Louis Braille Library annexe pondicherry university on 02 to 04 March 2018.

- Participated Two Days Workshop on "*COGNITIVE COMPUTING. TECH-NOLOGIES AND APPLICATIONS (CCTA 17)*" held at Anna University -Chennai during October 6-7, 2017.
- Participated NIVH one day workshop on "Right to Education with Special Reference to Persons with Disabilities" held at pondicherry university on 27th March 2014.
- Participated National Essay competition on "All India Peace and solidarity organization" conducted by AJPSO India.
- Participated as a Scribe and Reader forum member of pondicherry university HEPSN unit.

## Presented Invited Lectures as a Resource Person

1. Delivered Special Lecture on Web Accessibility Guidelineds: Organised by NIEPVD (National Institute for the Empowerment of Persons with Visual Disablties (Divyangjan)),Government of India, on 15th feb 2019 at Puducherry, India.

2. Delivered Lecture on Accessible Technologies for person with disabilities: Organised by Anbagam Special School, Puducherry, India , 24th January 2019.

3. Delivered Special Lecture on RPWD Act-2016: Organised by Sakshan Seva organization, Puducherry, India , 6th April 2019.

4. Delivered Special Lecture on mobile technologies for person with disabilities: Organised by UDIS Forum, Coimbatore, India, 16th June 2019.

5. Delivered Invited talk on Assistive technologies for person with disabilities and Environment Awareness: Organised by Godrej MNC Company Pvt ltd. India , 2019.

6. Delivered Special Lecture on Accessible Design in Global Environment for person with disabilities: Organised by Saksham Madurai unit, Tamilnadu, India, 1st August 2019.

7. Delivered Special Lecture on Global Design in Built Environment for person with disabilities: Organised by Madurai, District Disability Reha-bilitation Office, Madurai Collectorate, Government of Tamilnadu, India, 26th September 2019.

8. Delivered Special Lecture on Assistive Technologies in Global Environ-ment for person with disabilities: Organised by Cuddalore Government school,Tirupapuliyur, Tamilnadu, India, 11th Feb 2020.

9. Delivered Special Lecture on IoT and Assistive Technologies for person with disabilities: Organised by Mothers Matric Hr. Sec. School,Uthangarai, Tamilnadu, India, 13-11-2021 to 15-11-2020.

## Key Strengths

Self motivated, Hard working capacity with efficient strategy, Time manage-ment, Ability to work as a member of teams and Having the confidence to make decisions.

## Hobbies

Travelling, Playing Cricket, Listening songs and Reading magazines.

## Personal Details

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| Date of Birth | : 07/10/1988 |
| Gender | : Male |
| Languages | : English, Tamil, Basic French(Read) |
| Father Name | : Mr. M.Venkatesan |
| Mother Name | : Mrs. V.Kumari |
| Address | : 24, Gopal Chetty Street, periyakalapet, puducherry, India |
| Mobile | : +91 9894783141 |
| Email | : balajipucs@gmail.com |
| Social Network | : https://twitter.com/BalajiA11y |
| Reseach Gate | : https://bit.ly/2DILMyT |
| Google Scholar | : https://bit.ly/2FHy4Px |
| ORCID | : https://orcid.org/0000-0002-9135-2823 |
| Blood Group | : O + Positive |
| Martial Status | : Married |
| Spouse Name | : Mrs. Valli |
| . Disability Type | : Ortho (One Arm below elbow amputee) |

## Declaration

I do hereby declare that the above particulars furnished by me are true to the best of my knowledge and belief.

Dr.V.Balaji