



**Basaveshwar Engineering College (Autonomous), Bagalkote**  
**Department of Computer Science and Engineering**



**Department and Research Center: A Profile**

## I. Gist of the Research Center Information

No. of research guides enrolled at our research centre	10
No. of internal faculty registered as research guides	04
Faculty with Ph. D.	06
Faculty pursuing Ph. D.	05
Total number of registered candidates at the research centre, till date	35
No. of candidates awarded Ph. D. till date	18
No. of candidates pursuing Ph. D.	17

## Major Research Areas

1. Image and Video Processing
2. Pattern Recognition
3. Wireless and Sensors Networks
4. Mobile Networks
5. Biometric Security
6. Vehicular Cloud Networks

## II. Faculty registered as Guides

Sl. No.	Name	Specialization	Ph.D Candidates	M.Sc Candidates
1.	Dr. V. B. Pagi	Pattern Recognition	3	0
2.	Dr. S. V. Saboji	Wireless Mobile Networks	2	0
3.	Dr. Vilas Naik	Video Processing	2	0
4.	Dr. G. B. Chittapur	Digital Forensics	0	0
5.	Dr. S. P. Bangarshetti	Image Processing	4	0
6.	Dr. L. B. Bhajantri	Wireless Sensor Networks	5	0
7.	Dr. S. R. Patil	Pattern Recognition	5	0
8.	Dr. Anil Devangavi	Vehicular and Mobile Networks	2	0
9.	Dr. B. M. Reshmi	Medical Image Processing	0	1
10.	Dr. V. C. Kagawade	Image Processing	3	0

### III. Ph.D.s Awarded Till Date

Sl. No	Name of the Research Scholar	Name of the Guide	Title	Year of award	Category
1	D. G. SAVAKAR	Dr. BASAVARAJ S. ANAMI	Design and Development of Machine Vision Methodologies for Common Applications in Applications in Agriculture and Horticulture Sciences	2010	GM
2	RASHMI RACHH	Dr. BASAVARAJ S. ANAMI	Studies on Architectures and Implementations of Advanced Encryption	2012	GM
3	V. C. BURKAPALLI	Dr. BASAVARAJ S. ANAMI	Design and Development of Machine Vision Methodologies for Food Objects Recognition: An Attempt towards Automatic Food Serving by Robot System	2011	GM
4	SAROJINI B. K.	Dr. BASAVARAJ S. ANAMI	Analysis of Visual Evoked Potentials in the Diagnosis of Optic Nerve Diseases using Digital Signal Processing Techniques	2017	GM
5	V. B. PAGI	Dr. BASAVARAJ S. ANAMI	Recognition and classification of sound patterns produced by two wheelers for automated diagnosis	2014	GM
6	M. M. KODABAGI	Dr. S. A. ANGADI	Techniques for Web Service Based Hand Held System Useful in Understanding Display Boards	2014	SC
7	P. H. UNKI	Dr. BASAVARAJ S.	Recognition,	2017	GM

		ANAMI	Analysis, and Interpretation of Certain Brain MR Images		
8	VILAS NAIK	Dr. S. A. ANGADI	Soft Computing and Graph Theoretic framework for Multimodal Video selection and Summarization	2018	GM
9	S. M. HATTURE	Dr. S. A. ANGADI	Soft Computing and Graph Theoretic Approaches for Multimodal Biometrics System	2019	GM
10	V. C. KAGAWADE	Dr. S. A. ANGADI	Efficient and robust person identification using face and iris biometrics	2019	GM
11	PRAVEEN S. CHALLAGIDAD	Dr. MAHANTESH N. BIRJE	Design and Analysis of some Security Schemes for Private Clouds	2020	GM
12	R. S. WADAWADAGI	Dr. V .B. PAGI	Development of an Integrated Framework for Web Content Analysis	2021	GM
13	PAVAN KUNCHUR	Dr. S. P. BANGARSHETTI	Multistream Process for Photographic Mosaicing Using Crowd Sourced Data and its Performance Analysis	2021	GM
14	TABASSUM MUJAWAR.	Dr. LOKESH BHAJANTRI	Trust based Access Control Mechanism for Cloud Environment	2023	GM
15	SHIVANAND MANJARAGI	Dr. S. V. SABOJI	Secured Vertical Handover System for Heterogeneous Wireless Networks	2024	GM
16	GANGADHARAIH S.	Dr. LOKESH BHAJANTRI	Resource Management and Secure Routing in Internet of Things	2024	GM

17	SHOBHA R. BHARAMAGOUDAR	Dr. S. V. SABOJI	Routing System for Mobile Opportunistic Network using Microscopic and Macroscopic schemes	2024	GM
18	VASUDHA M. BONAL	Dr. LOKESH BHAJANTRI	Cognitive Agent Based data Synchronization and Fault Tolerance in Ubiquitous Network	2025	GM

**IV. Candidates Pursuing Ph.D.**

Sl. No	USN	Name of the Research Scholar	Name of the Guide	Title of PhD	Current Status	Category
1.	2BA16PEJ09	VEENA PATIL	Dr. S. R. PATIL	Automatic Detection of Cancerous Cells in Histopathological Images of Uterine Tissue	Colloquium Completed	GM
2.	2BA15PEJ02	PRASHANT BALURGI	Dr. LOKESH BHAJANTRI	Data Perception and Resource Management in Cognitive Internet of Things	Comprehensive Viva-Voce completed	GM
3.	2BA20PCS04	RAGHAVENDRA JADHAV	Dr.S P BANGARSHETTI	Data Analytics on Corona Viruses and Epidemic Diseases	Appearing for course work	GM
4.	2BA20PCS07	SUDHA VISHNUKUMAR SALAKE	Dr.S P BANGARSHETTI	Generative AI for Semantic document comparison in Medical Records Enhancing Consistency and Reducing discrepancies	Course work completed	GM
5.	2BA20PCS05	RUDRAGOUDA HIREGOUDAR	Dr.S. V. SABOJI	Cyber security attack detection using Soft computing technique	Comprehensive Viva-Voce completed	GM
6.	2BA20PCS08	USHA JOALEKAR	Dr. VILAS NAIK	Analysis of Brain MRI Images in View of Early Detection of Alzheimer using Clinical Data	Registered	GM
7.	2BA20PCS06	SANGAMESH SAJJAN	Dr. VILAS NAIK	Precision Agriculture like Crop Yield Prediction Detecting Plant Diseases	Registered	GM
8.	2BA21PCS03	RAJU NADAF	Dr. V B PAGI	Text Classification by zero shot for learning for Sentiment Analysis	Course Work completed	GM
9.	2BA21PCS05	Y. V. KANAKA DURGA BHAVANI	Dr. V B PAGI	Human Activity Detection, Recognition and Prediction for Crime Scene Analysis	Comprehensive Viva-Voce completed	GM
10.	2BA20PCS01	GIRISH SHETTER	Dr. ANIL	A Novel Methodology to	Course	GM

			DEVANGAVI	Enhance the User Experience Minimize Delay in Real Time Applications at Edge	Work completed	
11	2BA20PCS10	VINAYAK TELSANG	Dr. ANIL DEVANGAVI	Data Security Management Techniques for Edge Computing	Comprehensive Viva-Voce completed	GM
12	2BA23PCS01	SANDEEP. N. KUGALI	Dr. ANIL DEVANGAVI	Machine Learning Based Algorithms to Combat DDoS Wormhole and Botnet Attacks in IoT	Registered	GM
13	2BA23PCS02	SHIDDALINGESH S. HIREMATH	Dr. ANIL DEVANGAVI	An Energy Efficient Approach for Cluster Based Context Aware Routing in IoT	Registered	
14	2BA19MCS01	RAMYA. YAMIKAR	Dr. BHARATI RESHMI	Automatic Detection of Diabetic Retinopathy Using Fundus Images	Course Work completed	GM
15	2BA20PCS03	PRIYANKA TUPPAD	Dr. BHARATI RESHMI	Machine Learning for Image processing	Course Work completed	GM
16	2BA20PCS02	KACHI ANVESH	Dr. BHARATI RESHMI	Automatic Detection of Diseases in Retinal Fundus Images	Comprehensive Viva-Voce completed	GM
17	2BA22PCS01	JAYASHEELA KALLAGANIGER	Dr. BHARATI RESHMI	Automatic Detection of Retinal Disease Using Fundus Images	Course Work completed	GM
18	2BA21PCS01	MAHANTESH SHIVALINGAPPA DEVOOR	DR. VISHWANATH KAGWADE	Artificial Intelligence Applications in Agriculture	Course Work in Progress	SC
19	2BA21PCS04	RUBINA MUDDABIHAL	DR. VISHWANATH KAGWADE	NLP based Deep Neural Network for visually impaired people	Course Work in Progress	GM
20	2BA22PCS02	SUJATHA P.	DR. VISHWANATH KAGWADE	Novel Approach for detection of Retinal Disorders in OCT Scans.	Course work in progress	Others



**V. Patents (Applied/Published/Granted)**

Sl. No	Name of the Investigators	Title	Application Number and date	Publication Number and date	Award number and Date	Current Status
1.	Dr. V. B. Pagi Dr. G. B. Chittapur Y. V. K. Durga Bhavani	Smart alarm for security and surveillance	437601-001 18/11/2024	03/02/2025	191340 03/02/2024	Design Grant Accepted and Published
2.	Dr. V. B. Pagi	Human activity tracker for low quality occluded environments	202341075890 07/11/2023	50/2023 15/12/2023	-	Published
3..	Dr. V. B. Pagi Dr. G. B. Chittapur Y. V. K. Durga Bhavani	System and method for crime scene evidence analysis	202441082003 28/10/2024	44/2024 01/11/2024		Published
4.	Dr. S. V. Saboji Dr. Govindraj Chittapur Dr. P. S. Challagidad	System for cyber attack detection in IOT devices and method thereof	202441000349 03/01/2024	05/2024 02/02/2024	-	Published
5.	Dr. Govindraj Chittapur	Forgery video detection system based on auto encoders for ameliorated classification	202141020483 05/05/2021	45/2022 11/11/2022	--	Published
6.	Dr. Govindraj Chittapur	Machine learning based prediction of recommended song selections based on the people mindset using the dataset of age and emotional using deep learning algorithm	202241038948 06/07/2022	29/2022 22/07/2022	-	Published
7.	Dr. Govindraj Chittapur	AI and deep learning-based detection of	202311059718 05/09/2023	40/2023 06/10/2023	-	Published

		heart beat anomaly and artery deposition analysis related to cardiac problems using efficient dl algorithms like cnn, nb classifiers etc				
8.	Dr. Govindraj Chittapur	Ergonomic patient transfer chair	396492-001 03/10/2023	50/2023 15/12/2023	150283 14/12/2023	Design Grant Accepted and Published
9.	Dr. Govindraj Chittapur	Ai based ultrasonic cell crusher device	405947-001 29/01/2024	10/2024 08/03/2024	-	Design Grant Accepted and Published
10.	Dr. Govindraj Chittapur	Counterfeit detector	6318117 11/10/2023	01/12/2023	631817 01/12/2023	Design Grant Accepted and Published
11.	Dr. Praveen S. Challagidad	A hybrid ensemble learning approach to star-galaxy classification	202241011956 05/03/2022	10/2022 11/03/2022	-	Published
12.	Dr. Praveen S. Challagidad Prof. Basavaraj S. Malapur Smita K. Gour	Under water drone	367706-001 15/07/2022	-	-	Under Secrecy Direction
13.	Dr. Lokesh B. Bhajantri Prof. Vasudha V. Ayyannavar	AI and IOT based agriculture crop cutting device	390551-001 18/07/2023	45/2023 10/11/2023	147961 07/11/2023	Design Grant Accepted and Published and published
14	Shama P. S Smitha K Vidya Hunagund Vasudha V. Ayyannavar	Enhanced tennis video annotation using CNNs and dense trajectory methods	202441041323 28/05/2024	22/2024 31/05/2024	-	Published
15.	Mrs. Y. V. K. Durga Bhavani Dr. V. B. Pagi Dr. G. B. Chittapur	Advancement and challenges in unconstrained face recognition technology for biometric identification	202341054700 14-08-2023			Patent Filed

## VI. Research works in Progress

Title of the Research Work	Year of Commencement	Name of Principal Investigator
Design and development of security service in 5G wireless networks	2022	Dr. S. V. Saboji and Dr. S. M. Hatture
Agent based securer source and data management in FOG computing.	2021	Dr. L. B. Bhajantri
Cloud Based Real Time Monitoring of Crops using Machine Learning Approaches	2021	Dr. S. R. Patil
Cybersecurity threat detection in smart agriculture using machine learning approach Design and implementation of security services in 5G wireless networks	2022	Dr. S. M. Hatture Dr. S. V. Saboji

## VII. Research Projects Carried Out

Sl. No.	Title	Funding Agency	Amount	Year
1.	Modernization of Computer Networks and Simulations Lab	TEQIP	4.00	2007
2.	Modernization of Database Management Systems Lab	TEQIP	8.00	2008
3.	An exploration of Algorithm Approaches to Graph Matching and its Applications	VTU	3.10	2010
4.	Multimedia, Vision Computing and Intelligent Systems Lab	TEQIP	9.1625	2011
5.	Multimedia, Vision Computing and Intelligent Systems Lab	TEQIP	9.8115	2012
6.	Wireless and Mobile Computing Lab	TEQIP	5.51789	2012
7.	Learning Resources Lab	TEQIP	2.5000	2013
8.	Data Mining and Information Systems Lab	TEQIP	9.2020	2013

### VIII. Summary of Technical Publications

SI No	Academic Year	International Journals	International Conferences	Book Chapter	Total
1	2024-25	4	1	0	05
2	2023-24	8	5	1	14
3	2022-23	7	2	1	10
4	2021-22	7	3	1	11
5	2020-21	13	1	6	20
6	2019-20	16	9	2	27
<b>Total</b>					<b>87</b>

**IX. Listing of Computing Facilities**

Sl.No	Name of the equipment	Quantity	Approx. Cost/ Unit	Date of Purchase
<b>Lab 1</b>				
1.	HP Pro Tower 280 G9 12 <sup>th</sup> Gen Intel Core i5-12500 @ 3.0 GHz. 8GB RAM, 512 GB SSD With std Configuration	06	44,999.30	22/04/2024
2.	HP Compaq Elite 8300 Intel Core i5 3470 @ 3.2 GHz. 8GB RAM, 512 GB SSD With std Configuration (refurbished pc)	30	14830.00	25-09-2023
3.	Dell Vostro 260 Intel Core i3 2100 CPU @3.10 GHz, 4 GB RAM, With std Configuration (Management Fund)	01	25904.00	23/11/2011
4.	HCL Infinity Pro BL 1330 ES Intel(R) Core 2 Duo CPU E7200 @ 3.06 GHz, 2 GB RAM, With std Configuration	02	29200.00	26/04/2011
5.	Voltas Inverter Model Split Air Conditioner 2 Ton Single Phase	03	41406.25	28/03/2023
6.	Havells Swing Wall Mount Fans	06		
7.	Safe Power Online UPS 20 KVA 3Phase Input / 1 Phase Output Along with SMF Batteries 20 Nos Amron Make Qunta 65AM Model Including Battery Stand and Inter Linking Cables	01	240677.67	20/03/2024
<b>Lab 2</b>				
8.	HP -Pro desk Intel Core i5-7500 quad core CPU/8GB/1TBHDD-WIN 10	30	Rs 43,070/Each	28/10/2017
9.	Make HP, Pro desk 600G4	05	Rs 41.890/Each	09/09/2019
10	DELL VASTRO Desk top Computer i3/4GB/ RAM/500HDD/WIN-7	01	Rs 25904	23/11/2011
11	Voltas Inverter Model Split Air Conditioner 2 Ton Single Phase	03	41406.25	28/03/2023
12	Havells Swing Wall Mount Fans	06		
13	Safe Power Online UPS 40 KVA 3Phase Input / 1 Phase Output Along with SMF Batteries 30 Nos Amron	01	491525.42	20/03/2024

	Make Qunta 100AH Model Including Battery Stand and Inter Linking Cables			
<b>Lab 3</b>				
14	HP 19.5Inch led monitor HP 600 G2-MT PU/Ci5/6500/8GB/1TB/DOS/DT Processor: Intel (R) CORE™ i5-6500 CPU @ 3.20GHz RAM: 8.00 GB System Type: 64 bit Operating system	35	942200	29/12/2016
15	Desktop U36 Intel® Core (TM) i-5 10500 CPU @ 3.10 GHz 3.10 GHz	01		
16	Dell Vostro 260 Intel Core i3 2100 CPU @3.10 GHz, 4 GB RAM, With std Configuration (Management Fund)	01	25904.00	23/11/2011
17	Voltas Inverter Model Split Air Conditioner 2 Ton Single Phase	03	41406.25	28/03/2023
18	Havells Swing Wall Mount Fans	06		
<b>Lab 4</b>				
19	HP Intel Core i7, 10 TH GENERATION Desktop Computer Intel(R) Core(TM) i7-10700 CPU @ 2.90GHz, 8 GB RAM, 19" TFT Monitor,	30		
20	Dell Vostro 260 Intel Core i3 2100 CPU @3.10 GHz, 4 GB RAM, With std Configuration (Management Fund)	01	25904.00	23/11/2011
21	Processor: Intel(R) Core( T M) 2 Duo CPU E 7200 @ 2.53 GHz RAM:2.00GB	01	27500	04/11/2008
22	Voltas Inverter Model Split Air Conditioner 2 Ton Single Phase	02	41406.25	28/03/2023
23	HP Laser jet P1566 01			
24	Havells Swing Wall Mount Fans	05		
<b>Lab 5</b>				
25	HP Pro Tower 280 G9 12 <sup>th</sup> Gen Intel Core i5-12500 @ 3.0 GHz. 8GB RAM, 512 GB SSD With std Configuration	65	44,999.30	22/04/2024
26	Havells Swing Wall Mount Fans	04		

27	Air Conditioners	03		
<b>Lab 6</b>				
28	HP Pro Tower 280 G9 12 <sup>th</sup> Gen Intel Core i5-12500 @ 3.0 GHz. 8GB RAM, 512 GB SSD With std Configuration	65	44,999.30	22/04/2024
29	Havells Swing Wall Mount Fans	04		
30	Air Conditioners	03		

**Common Computing, Network and Teaching Aids facilities.**

Sl.No	Name of the equipment	Quantity
1	Laptops HP Intel Core i7, 8 <sup>th</sup> GENERATION @ 2.90GHz, 8 GB RAM,	03
2	Desktops All in One PC's HP Intel Core i7, 10 <sup>TH</sup> GENERATION Desktop Computer Intel(R) Core(TM) i7-10700 CPU @ 2.90GHz, 8 GB RAM,  Desktops: HP Intel Core i5, 10 <sup>th</sup> GENERATION Desktop Computer Intel(R) Core(TM) i7-10700 CPU @ 2.90GHz, 8 GB RAM, 19" TFT Monitor,	03  07
3	LCD Projectors LCD Panel approximate <b>0.5 inch</b> Colour Light Output Approximately <b>2,500 Lumens</b> White Light Output Approximately <b>2,400 Lumen</b>	03
4	Smart Boards: 6 X 4, With facility to connect Computer as well as , Pen Drive.	01
5	Printers: A4 Size, 12-16 PPM Printer.	04
6	Printer cum Scanner and Copier(Xerox) A3 Size, 600 DPI, 30 PPM, Printer, Scanner cum copiter.	01
7	Generator: 85 KVA, 3 Phase to Single Phse	01
8	Network Accessories and cabling. Structured Network Cabling laid through the department using Cat 5 / Cat 6 and Fibre Backbone with wall mount 9/12/16 U rack to house switches, patch panel.	
	1 Switches 10/100/1000 mbps 48 Port	06
	2 Switches 10/100/1000 mbps 24 Port	02
	3 Wireless Access Points	02



## Laboratories set up under TEQIP-II

### Multimedia, Vision Computing and Intelligent Systems Lab

Package Name: CSVC25/1      Package Code:      TEQIP-II/KA/KA2G06/136

Faculty Incharge : Dr. Vilas Naik and Dr. M.M.Kodabagi

Package Cost :Rs. 916250.00

Sl. No.	Details of item	Quantity
1	8 Port Switch	01
2	All in One PC	02
3	Frame Grabber	01
4	Graphics Work Station	02
5	Image Processing Work Station	02
6	Networking Components for Cabling and Terminations (Rack)	01

Package Name: CSVC25/2      Package Code:      TEQIP-II/KA/KA2G06/137

Package Cost :Rs. 153596.00

Sl. No.	Details of item	Quantity
1	Digital SLR Camera	01
2	Digital Camera	02
3	Digital Camera	01
4	Infrared Camera	01
5	Web Camera	02
6	Wireless Camera	01

### Multimedia, Vision Computing and Intelligent Systems Lab

Package Name: CSVC25/4      Package Code:      TEQIP-II/KA/KA2G06/135

Package Cost :Rs. 981150.00

Sl. No.	Details of item	Quantity
1	E-Scan Agate Scanner	01

Package Name: CSSW32\_R      Package Code:      TEQIP-II/KA/KA2G06/184

Package Cost :Rs. 708000.00

Sl. No.	Details of item	Quantity
1	3D Animation Software	03 Users
2	Audio Editors	01
3	Audio/Video Streaming Software	01
4	DVD Creation Software	01

5	Photo Editors	01
6	Video Editing Software	01

Package Name: CSSW34\_R    Package Code:    TEQIP-II/KA/KA2G06/186  
 Package Cost :Rs. 57145.00

Sl. No.	Details of item	Quantity
1	OCR Software Abby Fine Reader	01

**Wireless and Mobile Computing Lab**

Package Name: CSSW31\_R    Package Code:    TEQIP-II/KA/KA2G06/183  
 Faculty Incharge : Dr. S. V. Saboji and Dr. M. N. Birje

Package Cost :Rs. 551789.00

Sl. No.	Details of item	Quantity
1	Net # 6A-RLM	20
2	Net # 65-RLM	01

**Wireless and Mobile Computing Lab**

Package Name: CSWM27\_R    Package Code:    TEQIP-II/KA/KA2G06/165  
 Package Cost :Rs. 712840.00

Sl. No.	Details of item	Quantity
1	9 U Wall Mount Closed Rack	01
2	Blue Tooth Kit and Keyboard	04
3	CDMA	04
4	GPS Modem	04
5	GSM Modem	04
6	One Time Installation Charges	01
7	Power Injector	01
8	Cisco 1941 Router Cisco Support Pack for 1 Yr	01
9	HP Proliant DL 380c Gen8 Server	01
10	Smart Phones	03
11	Catalyst 2960S 24 Crig E (switch)	01
12	Cisco Support Pack for 1 Yr	01
13	Tablet	01
14	Wireless Access Point	01
15	Cisco Support Contract for 1 Yr	01
16	Wireless Signal Jammer	04

**Learning Resources Lab**

Package Name: CSEL30/1      Package Code:      TEQIP-II/KA/KA2G06/191

Faculty Incharge : Prof. S.V.Saboji and Prof. K.S.Patil

Package Cost :Rs. 250000.00

Sl. No.	Details of item	Quantity
1	Customized E-book Collection with Perpetual Access of 164 Titles	164 Books

URL to access the e-Books : <http://lib.mylibrary.com>

**Data Mining and Information Systems Lab**

Package Name: CSDM28      Package Code:      TEQIP-II/KA/KA2G06/14

Faculty Incharge : Prof. P. V. Kulkarni and Dr. A. D. Devanagavi

Package Cost :Rs. 920203.00

Sl. No.	Details of item	Quantity
1.	Network Storage Server	1
2.	Server	1