Department of Electronics and Telecommunication Engineering

Name: Megha Mahendra Kolhekar			

Date of Birth	23rd August 1972		

Education Qualifications	UG	PG	PhD
	BE (Electronics) Nagpur University	M. Tech. (Communication & Signal Processing) IIT Bombay	Ph.D fro Electrical Engineering Department IIT Bombay Thesis: A Linear Algebraic Approach to Permutation Polynomials over Finite Fields

Work Experience	Teaching	Research	Industry	Others
	28 years	During PhD 2014-2022	01 year	--

Area of Specialization	Finite Fields and Cryptography, Image Processing & Machine Vision, Machine Learning
Courses taught	- Cloud Computing & Security R-2019 BE sem VII EXTC - Image Processing & Machine Vision, R-2016, BE sem VI EXTC - Neural Networks and Fuzzy Logic, (Elective), R-2016, EXTC sem VII - Wireless Sensor & Adhoc Networks ME Sem II CBGS EXTC - Image and Video Processing Sem VIII CBGS EXTC - Mobile and Wireless Communication ME sem II CBGS EXTC - Fiber Optic Communication (ME EXTC Sem I) - Data Compression & Encryption (Elective) – BE EXTC Sem VII

	• Image Processing (Elective) –BE EXTC Sem VIII • Mobile Cellular Systems –BE EXTC Sem VII • Electromagnetic wave Theory –SE EXTC Sem IV	
Research guidance (Number of Students)	**Under Graduate projects**	1. BE Final Year project on "Stock Prediction And Recommendation System", AY 2023-24, Nishit Patil (3020139), Vaibhav Totawar (3020158), Siddhesh Upadhyay (3020159) & Harsh Yeole (3020160), Internal Guide: Dr. Megha Kolhekar 2. "AI Based Tracking and Targetting System" AY 2023-24, Avantika Pardeshi, Pratik Mhatre, Arkam Khan, Omkar Yadav 3. BE Final Year Project on "Development Of Early Warning System For Credit Defaulters Using Deep Learning", Meryl Jacob, H. Reddy, P. Kapoor, R. Christeena AY 2021-22. 4. BE Final Year Project on "Synthetic Content Detection in Deepfake Video using Deep Learning", Jalui Kalicharan, Aditya Jagtap, Reba, Gilofer Mary, S. Sahrma, AY 2021-22. 5. BE Final Year Project on "License Plate Recognition using Deep Learning" AY 202-21, Sudhanshu Kurle, Rajni Pawar, Jamie Suresh, Rahul Verma 6. BE Final Year Project on "PREDICTION OF INDIAN STOCKS MOVEMENT USING MACHINE

		LEARNING", AY 2020-21, Shwetha Nagraj, Triparna Chatterjee, Pooja Kamble, Titty Matthew 7. BE Final Year Project on " Fully Homomorphic Encryption for Neural Networks Applications", AY 2019-20, Vaibhav Tiwari, Vaidehi Shelar, Ayushi Raina, Rijin Thomas, Ashish Pandey. 8. BE Final year Project on "Automated Image Captioning using Deep Learning", AY 2018-2019; Varsha K., Vadehi Muley, Ayush Shetty. 9. BE Final Year Project on "Development of energy efficient Secure Body Area Network for Remote Health Monitoring Application" Year 2017-18, Avi Noronha, Nadeem, Rohit Nair and Shardul Tadaskar 10. BE Final year students of the batch 2015-16 successfully completed a project on "Night Vision Enhancement". The project group members include: Vidhya Gowda, Samrudhi Kaulapure, Rutuja Rajput, Beilaitha Khithie 11. BE Final year students of the batch 2015-16 successfully completed a project on "Night Vision Enhancement". The project group members include: Vidhya Gowda, Samrudhi Kaulapure, Rutuja Rajput, Beilaitha Khithie 12. BE Final year students of the batch 2014-15 successfully completed a

		project on "Visual Saliency Detection". The project group members include: Tejas Bobhate, Ushasi Chaudhuri, Sagar patil, Sai Vinherkar
		13. BE Final year students of the batch 2014-15 successfully completed a project on "Image Recognition And Naming". The project group members include: Shivani Deo, Mayuri Dhandare, Madhushree Gadhe, Martand Shandilya
		14. BE Final year students of the batch 2013-14 successfully completed a project on " Remote Video Surveillance Syatem". The project group members include: Vedant Sarode, Ujjwal Trivedi, Akshata Khardikar, Chaitali Kirtane
		15. BE Final year students of the batch 2011-12 successfully completed a project on "Compressed Video Encryption and Decryption". The project group members include: Mr. Mihir Gangar, Mr. Rahul Mehta, Mr. Kasilingam Palaniswami, Mr. Rahul Ithape
		16. BE Final year students of the batch 2011-12 successfully completed a project on "Personnel Access System using Face Recognition". The project group members include: Mr. Akshay Naik, Ms. Nalini, Ms. Ruchita, Mr. Sagar Naik.
		17. BE Final year students of the batch 2011-12

		successfully completed a project on "Hand gesture Recognition using Image Processing". The project group members include: Mr. Chetan Pokle, Ms. Priyanka Chavan, Ms. Swati Khandelwal, Mr. Mohit Goyal. 18. BE Final year students of the batch 2010-11 successfully completed a project on "Digitl Watermarking in Videos". The project group members include: Ms. Jinse Thomas, mr. Atulsingh rajput, Mr. Nikhil Singh and Mr. Rohan Teli 19. BE Final year students of the batch 2009-10 successfully completed project on "RS-Method for Watermarking on Medical Images". The project group members include: Ms. Kriti gupta, Late Ms. Tripti jain, Mr. Punit singh 20. BE Final year students of the batch 2009-10 successfully completed project on Animation of "Elliptic Curve Cryptography for text and Images". The project group members include: Mr. Anup Joseph, Mr. kamalkishor Pal, Mr. Mandar Koli and Mr. Neeraj Sawant 21. BE Final year students of the batch 2008-09 completed project on "Video transmission over Optical Fiber". The project group members include: Ms. Swati

		Kaduskar, Ms. Rajashree Kene, Ms. Shubhangi Palave, Ms. Kavita Patil
		22. BE Final year students of the batch 2008-09 completed project on "Design of Cryptosystem". The project group members include: Mr. B. Lal, Mr. Anirudh Deshpande, Mr. Mandar Dongre, Mr. Azharuddin Shaikh
		23. BE Final year students of the batch 2007-08 completed project on "Conteny Based Image Recovery". The project group members include: Ms. Neha S., Ms. Neha D., Ms. Deepika Akula
		24. BE Final year students of the batch 2006-07 completed project on "Encryption of Images using Visual Cryptographyr". The project group members include: Ms. Krutee Chaudhary, Ms. Supriya Kunder, Ms. Neha Shah, Ms. Tinu verghese
		25. BE Final year students of the batch 2006-07 completed project on "Vehicle Ignition and Immobilizer Unit". The project group members include: mr. Prasad nayak, Ms. Tanvi Mehta, Ms. Vinitha K., Mr. John P.
		26. BE Final year students of the batch 2005-06 completed project on "Digital Watermarking". The project group members include: Mr. Vishal C., Ms. Anuradha rao, Ms. Brinda M. and Ms. Pradnya Mhaskar

		27. BE Final year students of the batch 2004-05 completed project on "Automatic Vehicle Locator using GPS and GSM". The project group members include: Mr. Venkatesh Chakravarti, Mr. Kaizad Irani, Mr. Pritam Pradhan
	Masters	1. Automation of Linac Tube Testing Facility " Year 2019-20, Student: Gigi Joseph, External Guide: Mr. Sandesh Bhat, SAMEER, Kharghar, Navi Mumbai. 2. "Denoising of Images using Non negative Matrix factorization", Year 2017-18, Student: Kitty Verghese, Co-guide: Smita Hande 3. "Robust Video Encryption Decryption using Selective Frame encryption technique" Year 2016-17 Rupali Hole 4. "Electromagnetic Energy Harnessing using Rectenna Approach", Year 2016-17, Nimmy Nair 5. "RoI Based Medical Image Compression", Year 2016-17, Swati kasute 6. "Digital Image Encryption and Decryption ", Year 2015-2016, Student: Neha Balu Wagh 7. "Restoration and Enhancement of Astronomical Images using Multiple Filtering Techniques", Year 2014-

		15, Student: Ruchita Shevale 8. "Video Watermarking using Discrete Wavelet Transform", Year: 2014-15, Co-guide: Anita Jadhav, Student: Bindu Reddy 9. " Wireless sensor network based smart home with object locating system for old age population", Year 2014-15, Co-guide: Manita Rajput, Student: Rasika Ransing 10. "Authentication of document images with self repair capability", year 2014-15, Co-guide: Nilashree W. , Student: Sarita Kulhari 11. "Digital Watermarking in Videos", year 2012-13, Student: Anita Jadhav
	Ph.D (Completed / Thesis Submitted / Ongoing)	**NIL**
External Fund Received	1.Grant was obtained for conducting STTP. **Name of the STTP:** National Workshop on Scilab **Description:** The workshop was organized by FCRIT jointly with FOSSEE-Project IIT Bombay for college faculty, for training in Scilab the free software for engineering applications. Duration of the workshop was from 29/11/2010 to 03/12/2011. There were 21 participants from all over Maharashtra, Andhra Pradesh etc. Participants were given attendance and participation certificates after clearing a test conducted by the tutors. **Details of amount spent:**	

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Sr.No.	Amount spent	Year	Amount spent for
1.	Rs. 1,34,486/-	2010	Conducting National Workshop on Scilab with FOSSEE-Project IIT Bombay, grant was received from MHRD.

	2. Collective Grant (with Prof. Aiyar, Mrs. Manita) of **INR 770000/-** received for working on CARS project for **NMRL (DRDO Lab) Ambernath**. Period: January 2020 to June 2021. Handed over the project on 29th June 2021. **3. Received Travel grant of INR 75000** as Research Scholar of EE Dept IIT Bombay in June 2017 for paper presentation at Fq13 Italy.
Patent (Filed / published / Granted) details	NIL
No. of papers published in National/International Journals/Conferences	National Conferences: 10 International Conferences: 21 Journals: 15
Research Publications (No. of papers in National/International Journals / Conferences and No. of Books/ Book Chapters published	**Scopus/SCI indexed journals: 02** **Peer reviewed / UGC journals: 03** **IEEE/Springer conferences: 15** **Books/Book Chapters: 02** **Other International Conferences: 06** **National Conference: 10**
Projects Carried out	**Around 25**
Other major responsibilities	• **Head of the Department since November 1, 2023** • **Member, Library Committee, FCRIT Library** • **Member, College Development Committee** • **Member of BoS on other Institutes (SIES, SAKEC)** • **DQAC Member for E&C Department FRCRCOE** • **DQAC Member for EC Department of KJSCOE Vidyavihar**

Please provide link to the YouTube video somewhere:
https://www.youtube.com/watch?v=yeMtJ9E5LP4