

# Anandarup MUKHERJEE

## Senior Research Fellow & Ph.D. Research Scholar

### Indian Institute of Technology Kharagpur

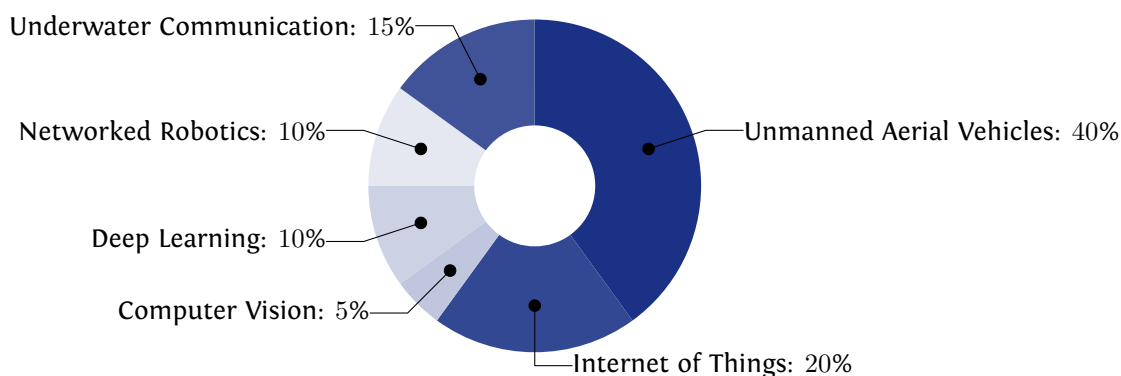
#### PERSONAL DATA

ADDRESS: SWAN Lab, CSE, Takshashila Building, IIT Kharagpur,  
W. Bengal, India 721302  
LANGUAGES: English, Hindi, Bengali  
PHONE: +91-8373841445  
EMAIL: [anandarupmukherjee@gmail.com](mailto:anandarupmukherjee@gmail.com)  
WEBPAGE (SELF, RESEARCH GROUP): [www.anandarup.in](http://www.anandarup.in), SWAN Lab.  
WEBPAGE (COMPANY): [SensorDrops Networks Pvt. Ltd.](#)  
ACADEMIC PROFILES: [Google Scholar](#), [Publons](#), [ORCID](#), [dblp](#)

#### EDUCATION

Current DEC 2014- PRESENT	<b>Ph.D. Scholar in NETWORKS, Indian Institute of Technology Kharagpur, India</b> 92% Coursework   Major: Information Technology 81% PhD Comprehensive   Major: Information Technology Thesis: "Offloading in Networked UAVs and UAV Swarms" Supervisors: Prof. Sudip MISRA, Prof. Narendra Singh RAGHUWANSHI
MAY 2012	<b>Master of Technology in ELECTRONICS &amp; COMMUNICATION ENGINEERING, West Bengal University of Technology, Kolkata, India</b> Major: Microelectronics & VLSI Design Thesis: "Detection of Arrhythmia using Wavelet Transforms, PCA and Neural Networks" Advisor: Prof. Kamal Kanti GHOSH GPA: 9.38/10
JUNE 2010	<b>Bachelor of Technology in ELECTRONICS &amp; COMMUNICATION ENGINEERING, West Bengal University of Technology, Kolkata, India</b> Thesis: "PC controlled Robotic Arm with Authentication Control" Advisor: Mr. Avishankar Roy GPA: 8.2/10

#### RESEARCH INTERESTS



## RESEARCH EXPERIENCE

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SEP 2018 - PRESENT	<p>Senior Research Fellow at DEPT. OF COMPUTER SCIENCE &amp; ENGINEERING IIT Kharagpur, India. <i>Funding agency: MeITy, New Delhi</i> <i>Development of Digital Mine Using IoT</i></p> <p>Responsible for conceptualizing and implementing algorithms, methods and hardware for underground coal mine safety and worker safety.</p>
AUG 2017 - JUL 2018	<p>Research Staff at DEPT. OF COMPUTER SCIENCE &amp; ENGINEERING IIT Kharagpur, India. <i>Funding agency: UGC-UKIERI</i> <i>Indo-UK Project on Safe and Usable IoT Ecosystem</i></p> <p>Responsible for conceptualizing and implementing algorithms, methods and hardware for acquisition and encryption of healthcare data, and finally releasing it on an IoT Blockchain.</p>
OCT 2017 - JAN 2018	<p>Senior Research Fellow at DEPT. OF COMPUTER SCIENCE &amp; ENGINEERING IIT Kharagpur, India. <i>Funding agency: ICAR, New Delhi</i> <i>Development of Precision Robotic Planter</i></p> <p>Responsible for conceptualizing and implementing algorithms, methods and hardware for agricultural robotic planter. The planter has to autonomously navigate a given plot of land and plant seedlings at pre-defined intervals.</p>
OCT 2014 - JUL 2017	<p>Senior Research Fellow at DEPT. OF AGRICULTURE &amp; FOOD ENGINEERING IIT Kharagpur, India. <i>Funding agency: ITRA, DeITy, New Delhi</i> <i>Increasing water use efficiency through experimental sensor networks</i></p> <p>Provided technical know-how, implementation and support for deployment and analysis of data gathered from wireless sensor networks, deployed for in-field monitoring of agricultural data. Developed and implemented an IoT- Cloud based infrastructure for integrating and automated analysis of the incoming field data. Designed various smart-phone apps and sensor nodes for low-cost field parameter monitoring.</p>
MAY 2009- JULY 2009	<p>Intern at DEFENCE RESEARCH &amp; DEVELOPMENT ORGANIZATION, NEW DELHI, India <i>DESIDOC- (Defence Scientific Information &amp; Documentation Center)</i></p> <p>Applied various data-mining and visualization techniques for analyzing interdependence between various users and their field of research. The data analyzed was acquired from the DRDO central library, which had information about various scientists and their book issue records. This work culminated in the publication of a magazine article and a research paper.</p>
JAN 2009- FEB 2009	<p>Intern at INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR, India <i>Dept. of Computer Sc. &amp; Engineering</i></p> <p>Implemented various image processing technologies to perform segmentation and thresholding of satellite images, for detection of aircraft in the satellite images.</p>
DEC 2008	<p>Intern at CENTER FOR ELECTRONICS TEST ENGINEERING (CETE) , KOLKATA, India <i>Eastern regional Testing Lab- East, Government of India</i></p> <p>Learned about various Intel based micro-controllers and micro-processors. Implemented the technologies learned to design an automated traffic light controller using Atmel 89c51 based micro-processor.</p>

## ENTREPRENEURIAL EXPERIENCE

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FEB 2020 -	<p>Innovation Partner for SENSORDROPS NETWORKS PVT. LTD. to <i>Nokia Technologies Oy</i>, Espoo, Finland</p> <p>Responsible for the design and development of patentable technological ideas in the domains of networking and communication for Nokia's "Invent with Nokia" initiative, with which Sensordrops Networks Pvt. Ltd. has signed a contract.</p>
MARCH 2019 - MAY 2019	<p>Project Consultant and Solution Architect for SENSORDROPS NETWORKS PVT. LTD. to <i>Tata Consultancy Services, Innovation Laboratory</i>, Kolkata, India</p> <p>Responsible for the design and development of mesh-based IoT remote temperature monitoring network. Lead a 4-person team from Sensordrops Networks for the development and manufacture of this product and its visualization app.</p>
DEC 2018 - PRESENT	<p>Project Consultant and Solution Architect for SENSORDROPS NETWORKS PVT. LTD. to <i>CESC Pvt. Ltd.</i>, Kolkata, India</p> <p>Responsible for all technical and commercial aspects of the development of partial discharge sensing solutions for monitoring of electrical sub-stations and installations of CESC, Kolkata.</p>
SEP 2018 - PRESENT	<p>Founder and Director at SENSORDROPS NETWORKS PVT. LTD. IIT Kharagpur, India. <i>Science and Technology Entrepreneurship Park</i></p> <p>Responsible for all technical and commercial aspects of the development of Epione: IoT-based Ubiquitous Healthcare monitoring kit, and machine health monitoring of electrical sub-stations and installations of CESC, Kolkata.</p>

## TEACHING EXPERIENCE

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JUL 2017- PRESENT	<p>Graduate Teaching Assistant at NATIONAL PROGRAMME ON TECHNOLOGY ENHANCED LEARNING (NPTEL), India</p> <p><i>Introduction to Internet of Things</i></p> <p>Responsible for assisting in the development of course material, evaluation questions, and regularly addressing students' technical queries on the online forum.</p>
AUG 2016- PRESENT	<p>Graduate Teaching Assistant at INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR, India</p> <p><i>Dept. of Computer Science &amp; Engineering</i></p> <p>Responsible for assisting in taking theory, as well as laboratory sessions along with evaluations for courses ranging from "Programming and Datastructures" to "Architecting solutions for the Internet of Things".</p>
JUN 2012- OCT 2014	<p>Assistant Professor at UNIVERSITY OF ENGINEERING &amp; MANAGEMENT, JAIPUR, India</p> <p><i>Dept. of Electronics &amp; Communication Engineering</i></p> <p>Responsible for teaching as well as administrative assignments. The teaching assignments spanned over theory as well as practical classes. Administrative tasks involved the assignment of acting Head of Department for a period of 2 years from 2013-2015. Oversaw and implemented the setting up and planning of over 7 laboratories, as well as student welfare activities such as workshops, internships and industrial visits.</p>
AUG 2011- MAY 2012	<p>Lecturer at INSTITUTE OF ENGINEERING &amp; MANAGEMENT, KOLKATA, India</p> <p><i>Dept. of Information Technology</i></p> <p>Responsible for theory as well as practical assignments. Additional responsibilities included mentoring students and organizing an international conference at the institute, as the <i>Assistant Organizing Secretary</i>, in Jan 2012.</p>

## AWARDS & ACHIEVEMENTS

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JUN 2019	<p>Top Downloaded Article 2017-2018</p> <p>Awarded by <b>Wiley Interdisciplinary Reviews - Data Mining and Knowledge Discovery</b> for the paper "Knowledge discovery for enabling smart Internet of Things: A survey"</p> <p>This paper has been recognized as a top 20 most read paper in Wiley Interdisciplinary Reviews - Data Mining and Knowledge Discovery. Amongst articles published between January 2017 and December 2018, this paper received some of the most downloads in the 12 months following online publication. <a href="#">Link</a></p>
MAY 2019	<p>InSc Young Achiever Award</p> <p>Awarded by the <b>Institute of Scholars, Bangalore</b> for the paper "Blind Entity Identification for Agricultural IoT Deployments"</p> <p>InSc Young Achiever Award is to recognize high-quality research papers published in any of the reputed International Journals. A total of upto 100 research papers from all over India are awarded annually.</p>
OCT 2018	<p>Dr. Amulya K. N. Reddy Award</p> <p>Awarded by the <b>Hari-om Ashram Prerit Society</b> for commercialization of prototype (INR 50,000).</p> <p>Ideas or solutions, which address an important social, environmental or technological problem faced by masses or disadvantaged people/sectors/spaces or micro and small enterprises, or have the potential to impact a pressing national need are considered for this award. Upto 3-4 awards are granted annually from over 30,000 entries (approx.)</p>
JUL 2018	<p>The Internet of Things Quiz Contest</p> <p>Gold Medal Awarded by the <b>Dept. of IT &amp; Electronics, Govt. of West Bengal</b> at Biswa Bangla Convention Center, Kolkata</p> <p>One of the five selected from approximately 300 participants for the Gold Medal by the Chairman of HIDCO, West Bengal, India.</p>
MAR. 2018	<p><b>GANDHIAN YOUNG TECHNOLOGICAL INNOVATION AWARD.</b></p> <p>Awarded by the <b>President of India</b> at Rashtrapati Bhawan, New Delhi</p> <p>(Citation: <b>Socially Relevant Innovation</b>) <a href="#">Media Coverage</a> <a href="#">Awarded Prototype</a></p> <p>This award is given to the innovations which use significantly less material/energy to create sustainable solutions. Frugality and creating value for many by using lesser material, energy, and resource are the key focus-areas while benchmarking the innovations. Only 12 awards are given annually from over 50,000 innovations, all over India.</p>
SEP. 2017	<p>MOOC Video Lectures (NPTEL)</p> <p>Introduction to Internet of Things, for weeks 5,6 and 7.</p> <p><a href="#">NPTEL</a></p>
JUL. 2017	<p>Media Coverage for being part of the development and operational team of AMBUSENS - An ambulatory patient healthcare, remote monitoring system.</p> <p><a href="#">Economic Times</a>, <a href="#">Hindustan Times</a>, <a href="#">Indian Express</a>, <a href="#">Times of India</a>, <a href="#">Firstpost</a></p>
MAR. 2017	<p>Media Coverage for developing BHIM - Autonomous Drone</p> <p><a href="#">The Hindu</a>, <a href="#">LinkedIn</a>, <a href="#">Times of India</a>, <a href="#">India Today</a></p>
JAN. 2017	Organized ITRA-MLA EW 2017, IIT Kharagpur, India (Event Coordinator)
SEP. 2016	<p>IBM DAY PROTOTYPE DEMO., IIT Kharagpur, India (Batteryless Sensing in IoT : 1<sup>ST</sup> Runner Up)</p> <p><a href="#">IBM Day @ IIT KGP</a></p>
JAN. 2016	INNOVATION CHALLENGE, Johnson Controls (Position: 2 <sup>nd</sup> Runner up)
AUG. 2015	HEAD (Membership Development) IEEE Student Branch, IIT Kharagpur, <a href="#">IEEE</a>
OCT. 2015	SPECIAL MENTION for organizing Hardware Hackathon at IEEE Local Student Branch, IEEE PULSE, <a href="#">EMBS PULSE</a>

## KEYNOTE TALKS

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FEB. 2020	INDO-UK (UGC-UKIERI) WORKSHOP ON IoT AND SECURITY <i>Phantom Networks: An Intangible Communication Paradigm</i> LOUGHBOROUGH UNIVERSITY, LONDON CAMPUS, UK
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[Link](#)

## TALKS

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FEB. 2020	INDO-UK (UGC-UKIERI) WORKSHOP ON IoT AND SECURITY <i>Phantom Networks: An Intangible Communication Paradigm</i> LOUGHBOROUGH UNIVERSITY, LONDON CAMPUS, UK
OCT. 2019	SRIC-NSCS WORKSHOP ON FUTURE RESEARCH COLLABORATIONS ON DEFENCE SECURITY APPLICATIONS <i>Covert Networked Surveillance Systems and Soldier-as-a-System</i> IIT KHARAGPUR, INDIA
OCT. 2019	SGRIP-SPONSORED SHORT TERM COURSE ON SELECTED TOPICS IN MODERN WIRELESS NETWORKS AND IoT <i>Development of an End-to-End IoT-based Architecture for real deployments.</i> IIT KHARAGPUR, INDIA
OCT. 2018	TEQIP III-SPONSORED SHORT TERM COURSE ON INTERNET OF THINGS: THEORY AND APPLICATIONS <i>Evolution and Need for IoT: Microcontrollers to Complex System of Systems</i> IIT KHARAGPUR, INDIA
FEB. 2018	INDO-UK (UGC-UKIERI) WORKSHOP ON IoT SECURITY <i>Safety and Privacy in IoT Healthcare</i> CITY, UNIVERSITY OF LONDON, UK
OCT. 2017	INDO-UK (UGC-UKIERI) WORKSHOP ON USABLE IoT ECOSYSTEM <i>Architecting IoT-enabled UAV Networks and Networked UAV Swarms</i> LOUGHBOROUGH UNIVERSITY, LONDON, UK
JAN. 2017	DEITY-MEDIA LAB. ASIA - ITRA WATER EVALUATION WORKSHOP <i>Designing Autonomous UAVs</i> IIT KHARAGPUR, INDIA

## TRAVEL GRANTS

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SEP. 2019	Central Institute of Mining and Forestry Research (CIMFR), CSIR, Dhanbad, Jharkhand, India. Fully funded as part of team for project evaluation committee meeting (Total Grant: ₹ 10,000)
APR. 2018	IEEE WCNC 2018, Barcelona, Spain. Fully funded as part of best academic conference of IIT Kharagpur (Total Grant: ₹ 2,30,000)
FEB. 2018	Visited Loughborough University, and City, University of London. Fully funded as part of UGC-UKIERI Indo-UK joint research project staff (Travel Grant: ₹ 1,10,000)
DEC. 2017	Organized Indo-UK joint project workshop on Internet of Things at

	C.V.Raman College of Engineering, Bhubaneswar	Indo-UK Workshop
	Fully funded as part of UGC-UKIERI Indo-UK joint research project staff (Travel Grant: ₹ 15,000)	
OCT. 2017	Visited Loughborough University, and City, University of London. Fully funded as part of UGC-UKIERI Indo-UK joint research project staff (Travel Grant: ₹ 1,20,000)	
JUL. 2016	DeITy- Media Lab Asia, ITRA-Water Evaluation Workshop, KIIT University, Bhubaneswar (Travel Grant: ₹ 10,000)	
JAN. 2016	Attended Microsoft-ACM Academic Research Summit, Pune, India (Travel Grant: ₹ 13,000)	
JAN. 2016	DeITy- Media Lab Asia, ITRA-Water Feedback Workshop, IIT Bombay (Travel Grant: ₹ 14,000)	
JUL. 2015	DeITy- Media Lab Asia, ITRA-Water Evaluation Workshop, University of Hyderabad, Hyderabad (Travel Grant: ₹ 10,000)	
JAN. 2015	DeITy- Media Lab Asia, ITRA-Water Feedback Workshop, IISc. Bengaluru (Travel Grant: ₹ 10,000)	

## TEACHING ASSISTANTSHIPS

JAN 2020 - APR 2020	Teaching Assistant for NATIONAL PROGRAMME ON TECHNOLOGY ENHANCED LEARNING (NPTEL) IIT Kharagpur, India <i>Introduction to Internet of Things</i> STUDENTS: 35,000+
AUG 2019 - OCT 2019	Teaching Assistant for NATIONAL PROGRAMME ON TECHNOLOGY ENHANCED LEARNING (NPTEL) IIT Kharagpur, India <i>Introduction to Internet of Things</i> STUDENTS: 35,000+
JUL 2019 - NOV 2019	Teaching Assistant at SAMSUNG DIGITAL ACADEMY LAB., DEPT. OF COMPUTER SC. & ENGINEERING IIT Kharagpur, India <i>Hands-on IoT solutions</i> STUDENTS: 22
JUL 2019 - NOV 2019	Teaching Assistant at DEPT. OF COMPUTER SC. & ENGINEERING IIT Kharagpur, India <i>Architectures and Protocols for IoT</i> STUDENTS: 22
JAN 2019 - APRIL 2019	Teaching Assistant at DEPT. OF COMPUTER SC. & ENGINEERING IIT Kharagpur, India <i>Programming and Data-structure Laboratory</i> STUDENTS: 80+
JAN 2019 - APR 2019	Teaching Assistant for NATIONAL PROGRAMME ON TECHNOLOGY ENHANCED LEARNING (NPTEL) IIT Kharagpur, India <i>Introduction to Internet of Things</i> STUDENTS: 35,000+
AUG 2018 - OCT 2018	Teaching Assistant for NATIONAL PROGRAMME ON TECHNOLOGY ENHANCED LEARNING (NPTEL) IIT Kharagpur, India <i>Introduction to Internet of Things</i> STUDENTS: 32,000+
JUL 2018 - NOV 2018	Teaching Assistant at DEPT. OF COMPUTER SC. & ENGINEERING IIT Kharagpur, India <i>Architectures and Protocols for IoT</i> STUDENTS: 15

JAN 2018 - APRIL 2018	Teaching Assistant at DEPT. OF COMPUTER SC. & ENGINEERING IIT Kharagpur, India <i>Programming and Data-structure Theory</i> STUDENTS: 190+
JAN 2018 - MAR 2018	Teaching Assistant for NATIONAL PROGRAMME ON TECHNOLOGY ENHANCED LEARNING (NPTEL) IIT Kharagpur, India <i>Introduction to Internet of Things</i> STUDENTS: 30,000+
AUG 2017 - DEC 2017	Teaching Assistant at DEPT. OF COMPUTER SC. & ENGINEERING IIT Kharagpur, India <i>Programming and Data-structure Theory</i> STUDENTS: 190+
JUL 2017 - OCT 2017	Teaching Assistant for NATIONAL PROGRAMME ON TECHNOLOGY ENHANCED LEARNING (NPTEL) IIT Kharagpur, India <i>Introduction to Internet of Things</i> STUDENTS: 30,000+
JAN 2017 - MAY 2017	Teaching Assistant at DEPT. OF COMPUTER SC. & ENGINEERING IIT Kharagpur, India <i>Programming and Data-structure Lab.</i> STUDENTS: 90+
AUG. 2016 - DEC 2016	Teaching Assistant at DEPT. OF COMPUTER SC. & ENGINEERING IIT Kharagpur, India <i>Wireless Ad-Hoc and Sensor Networks</i> STUDENTS: 25+

## PROJECT MANAGEMENT

2019- PRESENT	Ambulatory sensing and Point-of-Care recommendation system for IoT-based healthcare (Abdul Kalam National Innovation Fellowship)	Proposed, Managed, Contributed
2018- PRESENT	DHI-CoE on Manufacturing for Industry 4.0	Managed
2017- PRESENT	An integrated autonomous UAV and WSN-based system for crop management and crop condition monitoring	Proposed
2017- PRESENT	Improved underwater surveillance using experimental multimedia sensor network	Proposed, Contributed, Managed
2016- PRESENT	SAFE: secure and usable IoT ecosystem	Contributed, Managed
2015-2018	Development of robotic precision planter	Proposed, Contributed, Managed
2015-2018	Development of cloud network drone (UAV) assisted sprayer	Proposed, Contributed, Managed
2015-2018	Development of digital mine using Internet of Things	Managed, Contributed
2014-2017	Measurement to Management (M2M): Improved water use efficiency and agricultural productivity through experimental sensor networks	Contributed

## PROFESSIONAL AFFILIATIONS

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2019-2015	IEEE Communications Society (ComSoc)	Grad. Student Member
2019-2015	IEEE Computer Society	Grad. Student Member
2019-2015	IEEE Young Professionals Society	Grad. Student Member
2015-2016	IEEE Signal Processing Society (SPS)	Grad. Student Member
2019-2015	ACM	Grad. Student Member
2012-2013	IEEE EMBS	Student Member
2011-2012	IEEE	Student Member

## TECHNICAL COMMITTEE MEMBERSHIPS

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2019	IEEE Vehicular Technology Society	Technical Community on Connected Vehicles
2019	IEEE Computer Society	Technical Committee on Computer Communications
2019	IEEE Computer Society	Technical Committee on Data Engineering
2019	IEEE Computer Society	Technical Committee on Distributed Processing
2019	IEEE Computer Society	Technical Committee on Scalable Computing
2019	IEEE Computer Society	Technical Committee on Internet of Everything
2019	IEEE Computer Society	Technical Committee on Sustainable Computing
2019	IEEE ComSoc	IEEE Smart Cities Community
2019	IEEE ComSoc	IEEE Future Networks Community
2019	IEEE ComSoc	IEEE Internet of Things Community

## TECHNICAL COUNCIL MEMBERSHIPS

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2019	IEEE Sensors Council	Graduate Student Member
2019	IEEE Systems Council	Graduate Student Member

## PROFESSIONAL CERTIFICATIONS

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2011	FACULTY DEVELOPMENT PROGRAMME <i>Data Mining &amp; Machine Intelligence</i> COGNIZANT TECHNOLOGICAL SOLUTIONS, KOLKATA, INDIA
2011	SHORT TERM COURSE (WINTER) <i>VLSI Signal Processing</i> IIT KHARAGPUR, INDIA
2010	SPRING WORKSHOP <i>Nano-Bio Technology</i> IIIT PUNE, INDIA
2010	CERTIFICATION COURSE <i>Biometric Solutions for Security and Authentication</i> IEEE
2010	SHORT TERM COURSE <i>IPR Copyrights, Plagiarism, Trademarks, and Patents</i> IEEE



## COMPUTER SKILLS

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Basic Knowledge: PHP, HTML, JAVASCRIPT, LINUX, Ubuntu, APACHE CLOUD STACK, PERL, WEKA, PAJEK, ANDROID, ~~TEX~~  
Intermediate Knowledge: Python, MATLAB, C, Arduino, Embedded C, Latex

## ACADEMIC REFEREE SERVICE ([PUBLONS](#))

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IEEE	IEEE Transactions on Aerospace and Electronic Systems
IEEE	IEEE ACCESS
IEEE	IEEE Systems Journal
IEEE	IEEE Transactions on Sustainable Computing
IEEE	IEEE Journal on Selected Areas in Communication
IEEE	IEEE Transactions on Vehicular Technology
IEEE	IEEE Transactions on Mobile Computing
Springer	Telecommunication Systems, Springer
Springer	Photonic Network Communications , Springer
Elsevier	Fractals
Elsevier	Pervasive and Mobile Computing
Elsevier	Computers and Electronics in Agriculture
Wiley	Security and Communication Networks
Wiley	International Journal of Communication Systems
Inderscience Journals	International Journal of Communication Networks and Distributed Systems
JoVE	Journal of Visualized Experiments
IFAC Conference	International Conference on Advances in Control and Optimization Of Dynamical Systems (ACODS 2018), IFAC
IEEE Conference	Reviewer, IEEE TechSym, IIT Kharagpur
IEEE Conference	IEEE ANTS, Kolkata
IEEE Conference	IEEE INDICON, Pune

## GENERAL ARTICLES

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- A4. **A. Mukherjee**, S. Goswami, “Visualizing Graphs using PAJEK”, PC Quest, Enterprise Solutions, Nov. 2010.
- A3. **A. Mukherjee**, “Creating VB Macros in MS Word”, PC Quest, Developer, Dec. 2010.
- A2. **A. Mukherjee**, “Folder Manipulator in VB 6.0”, Electronics for You, ISSN No. : 0013- 516x, Sep. 2011.
- A1. N.Pathak, **A. Mukherjee**, “NANOENGINEER- A Virtual Nanotechnology Lab”, PC Quest, Hands On, Apr. 2013

## BOOKS

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- B2. S. Misra, **A. Mukherjee**, A. Roy, “Introduction to Industrial Internet of Things and Industry 4.0”, CRC Press, USA (Forthcoming)
- B1. S. Misra, **A. Mukherjee**, A. Roy, “Introduction to IoT”, Cambridge University Press, UK (In Press)

## JOURNAL PAPERS

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- J18. N. Pathak, **A. Mukherjee**, S. Misra, “AerialBlocks: Blockchain-Enabled UAV Virtualization for Industrial IoT”, IEEE Internet of Things Magazine, Special Issue on Blockchain-Enabled IIoT, **Accepted- Mar 2020** .
- J17. N. Pathak, S. Misra, **A. Mukherjee**, A. Roy, A. Zomaya “UAV Virtualization for Enabling Heterogeneous and Persistent UAV-as-a-Service”, Transactions on Vehicular Technology, IEEE **Accepted- Mar 2020**. (IF=5.339)
- J16. **A. Mukherjee**, S. Misra, V.S.P.Chandra, N. S. Raghuwanshi, “ECoR: Energy-Aware Collaborative Routing for Task Offload in Sustainable UAV Swarms”, Transactions on Sustainable Computing, IEEE (Early access), Feb. 2020. (IF=2.456) [Link](#)
- J15. D. Bhattacharya, S. Misra, N. Pathak, **A. Mukherjee**, “IDeA: IoT-Based Autonomous Aerial Demarcation and Path-planning for Precision Agriculture”, Transactions on IoT, ACM (selected for publication), Jan. 2020.
- J14. S. Misra, **A. Mukherjee**, “Phantom Networks: The Intangible Shoot-and-Scoot Communication Paradigm For Future Militaries”, *IEEE Communications Magazine*, Feb. 2020. (IF=10.356) [Link](#)
- J13. **A. Mukherjee**, S. Misra, A. Sukrutha, N. S. Raghuwanshi “Distributed Aerial Processing for IoT-Based Edge UAV Swarms in Smart Farming”, Computer Networks (SI), Elsevier, Published- Nov. 2019, DOI: <https://doi.org/10.1016/j.comnet.2019.107038>. (IF=3.03) [Link](#)
- J12. **A. Mukherjee**, S. Misra, N. S. Raghuwanshi, “A Survey of Unmanned Aerial Sensing Solutions in Precision Agriculture”, JNCA, Elsevier, pp.102461, Oct 2019 DOI: 10.1016/j.jnca.2019.102461 (IF=5.273) [Link](#)
- J11. **A. Mukherjee**, S. Misra, A. Atrish, “MiND: Mind Networked Device Architecture for Attention-Gated Ambient Assisted Living Systems”, *IEEE Systems Journal*, Accepted- Mar 2019. (IF=4.463) [Link](#)
- J10. **A. Mukherjee**, S. Misra, V. S. P. Chandra, M. Obaidat, “Resource-Optimized Multi-Armed Bandit Based Offload Path Selection in Edge UAV Swarms”, *IEEE IoT Journal (Special Issue on Advanced Computational Technologies in Mobile Edge Computing for Internet of Things)*, Nov. 2018. (IF=9.515) [Link](#)

- J9. **A. Mukherjee**, S. Misra, N. S. Raghuwanshi, S. Mitra, "Blind Entity Identification for Agricultural IoT Deployments", *IEEE IoT Journal*, vol.6, no. 2, pp. 3156–3163, Accepted-Oct 2018. (IF=9.515) [Link](#)
- J8. S. Misra, **A. Mukherjee**, A. Roy, "Knowledge Discovery for Enabling Smart Internet-of-Things: A Survey", *Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery*, 8.6 (2018): e1276. (IF=2.541) [Link](#)
- J7. S. Misra, S. Goswami, C. Taneja, **A. Mukherjee**, Mohammad Obaidat, "A PKI Adapted Model for Secure Information Dissemination in Industrial Control and Automation 6LoWPANs", *IEEE ACCESS*, vol.3, no., pp.875,889, 2015, DOI: 10.1109/ACCESS.2015.2445817. (IF=4.095) [Link](#)
- J6. S Goswami, S Misra, C Taneja, **A. Mukherjee**, "Design and Implementation Analysis of a Public Key Infrastructure- enabled Security Framework for Zigbee Sensor Network", *INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEMS*, Int. J. Commun. Syst. (2014), Published online in Wiley Online Library (wileyonlinelibrary.com). DOI: 10.1002/dac.2893, Nov 2014. [Link](#)
- J5. U. N. Thakur, S. Saha, **A. Mukherjee**, "A Proposed Architecture for Residue Number System based 1D 5/3 Discrete Wavelet Transform using Filter Bank and Lifting Scheme." *International Journal of Computer Applications*, Vol. 90, No.14, 2014.
- J4. **A. Mukherjee**, N. Pathak, A. Roy, "Heart Murmur Detection using Fractal Analysis of Phonocardiograph Signals." *International Journal of Computer Applications*, Vol. 88, No.12, 2014.
- J3. A. Roy, **A. Mukherjee**, "An Analysis of the Viability of using Katz Algorithm in differentiating Normal Heart Sounds from Cardiac Murmurs." *American Journal of Electronics & Communication*, Vol. 1, No.2, pp. 32-36, 2014.
- J2. **A. Mukherjee**, S. Chatterjee, K. Chatpadhyay, K. K. Ghosh, "A comparative study on the accuracy of ecg detection for arrhythmia by different wavelet families." *IEMIJMT*, Vol. 2, No.1, pp. 93-98, 2012.
- J1. S. Goswami, **A. Mukherjee**, A. Gupta, M. Kharbanda, P. Soni. "Visualization of Relationship among Library Users based on Circulation Data". *Defence Scientific Information and Documentation Centre Journal of Library and Information Technology (DJLIT)*, Vol. 30, No. 2, ISSN No. : 0974-0643. March 2010. [Link](#)

## CONFERENCE PAPERS

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- C13. N. Pathak, **A. Mukherjee**, S. Misra, "Reconfigurable Wearables for an Interoperable Healthcare IoT Framework", *IEEE INFOCOM 2020 (selected for oral presentation)*, Jul 2020, Toronto, Canada.
- C12. S. Misra, P. Deb, N. Pathak, **A. Mukherjee**, "Blockchain-Enabled SDN for Securing Fog-Based Resource-Constrained IoT", *IEEE INFOCOM 2020 Workshop (BlockSecSDN: Blockchain for Secure Software defined Networking in Smart Communities)*, (selected for oral presentation), Jul 2020, Toronto, Canada.
- C11. P. Deb, **A. Mukherjee**, S. Misra, A. Jamalipour "SkopEdge: A Traffic-Aware Edge-Based Auscultation Sound Monitor", (selected for oral presentation), *IEEE ICC 2020*, Jun 2020, Dublin, Ireland.
- C10. S. Misra, **A. Mukherjee**, A. Rehman, N. S. Raghuwanshi, "ROSE: Random Opportunistic and Selective Exploration for Cooperative Edge Swarm of UAVs", *IEEE COMSNET 2020*, Bengaluru, Jan 2020, India. [Link](#)

- C9. **A. Mukherjee**, S. Misra, N. Daw, D. Paul, "Fog-Based Visual Gesture Control and External Stabilization for micro-UAVs", IEEE Wireless Communications and Networking Conference (WCNC), Marrakkeh, Morocco, Apr. 2019. [Link](#)
- C8. **A. Mukherjee**, N. Pathak, S. Misra, S. Mitra, "Predictive Intra-Edge Packet-Source Mapping in Agricultural Internet of Things", IEEE Workshop on Communication, Computing, and Networking in Cyber Physical Systems, IEEE Globecom 2018, Abu Dhabi, Dec. 2018. [Link](#)
- C7. **A. Mukherjee**, S. Misra, N. S. Raghuwanshi, "SPA: A Sense-Predict-Actuate TDMA Latency Reduction Scheme in Networked Quadrotors", IEEE Wireless Communications and Networking Conference (WCNC), Apr. 2018, Barcelona, Spain. [Link](#)
- C6. **A. Mukherjee**, S. Misra, P. Khandelwal, "R2D2: Rotating-turret 2D-scanning and Dead-reckoning for Remotely Operated Rovers over Resource Constrained Network Systems", IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), Dec. 2017, Bhubaneshwar, India. [Link](#)
- C5. **A. Mukherjee**, S. Misra, P. Mangrulkar, Muttukrishnan Rajarajan, and Yogachandran Rahulamathavan, "SmartARM: A Smartphone-based Group Activity Recognition and Monitoring Scheme for Military Applications", IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), Dec. 2017, Bhubaneshwar, India [Link](#)
- C4. S. Misra, **A. Mukherjee**, D. Pal, S. Dalal, "u-OCEAN: An Underwater Omnidirectional Communication Environment using Acoustic Sensor Nodes", IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), Dec. 2017, Bhubaneshwar, India [Link](#)
- C3. S Goswami, S Misra, C Taneja, **A. Mukherjee**, "Securing Intra-communication in 6LoWPAN: A PKI Integrated Scheme", IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), 2014, vol., no., pp.15, 14-17 Dec. 2014, doi: 10.1109/ANTS.2014.7057265. [Link](#)
- C2. **A. Mukherjee**, K. K. Ghosh, "A Noise Independent Approach to QRS- Complex Detection Using CWT", International Conference on Informatics, Electronics and Vision (ICIEV'13). Dhaka, Bangladesh. 18- 19 May 2013(Digital Object Identifier: 10.1109/ICIEV.2013.6572722), p. 1-5, 2013. [Link](#)
- C1. **A. Mukherjee**, K. K. Ghosh. "An Efficient Wavelet Analysis for ECG Signal Processing", International Conference on Informatics, Electronics and Vision (ICIEV'12). Dhaka, Bangladesh. 18- 19 May 2012, IEEE Xplore (Digital Object Identifier: 10.1109/ICIEV.2012.6317419), p. 411-415, 2012. [Link](#)

## ACADEMIC REFERENCES

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