

Mohammad MOBASHIR

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EDUCATION

- 2018 | *Ph.D.* - SCHOOL OF COMPUTING, NATIONAL UNIVERSITY OF SINGAPORE, SINGAPORE
Research Area: Internet of Things, Wireless Sensor Networks
Supervisor: A/P Mun Choon Chan
- 2012 | *Bachelor of Engineering* - BENGAL ENGINEERING AND SCIENCE UNIVERSITY, INDIA
Major: Computer Science and Technology
Ranked **2nd** in a class of 60
- 2007 | *I.S.C* - ST. JOSEPH'S COLLEGE, KOLKATA, INDIA
Overall Percentage: 90.8%

RESEARCH EXPERIENCE

- 2012-2018
(5 years) | *Ph.D. Student* - SOC, NATIONAL UNIVERSITY OF SINGAPORE, SINGAPORE
Synchronous transmission has been exploited recently to design protocols for fast network synchronization, data dissemination, data collection and all to all data sharing Protocols. My research focus on making synchronous transmission practicle by solving the scalability problem. Meanwhile, I'm also studying the link qualities in outdoor deployments and trying to understand the factors which cause significant degradation in the performance of state-of-the-art sensor network protocols which perform well in indoor environment. In parallel, I maintain Indriya, a three-dimensional wireless sensor network testbed with users from over 75 universities worldwide.
Supervisor: A/P Mun Choon Chan
- 2009-2012
(3 years) | *Undergraduate Research Assistant* - BENGAL ENGINEERING AND SCIENCE UNIVERSITY, INDIA
Was involved in two projects on Wireless Sensor Network. The first one in the sophomore dealt with designing a data forwarding scheme having no additional delay to defend jamming attacks in wireless sensor network. The proposed multi-channel scheme based on multi-layer clustered architecture proved efficient through extensive MATLAB simulations. The second project targetting wireless multimedia sensor network resulted in an energy efficient partial discrete cosine transformation based data compression technique for energy constrained devices. These later became a part of the undergraduate final year thesis and resulted in two publications.
Supervisor: Prof. Sipra Das Bit

WORK EXPERIENCE

- 2017
(Present) | *Co-founder and CTO* - ACKCIO, SINGAPORE
Reliable Wireless Automated Solution for Construction Monitoring and Analytics
- 2015
(3 months) | *PhD Summer Intern* - MICROSOFT RESEARCH INDIA, BENGALURU, INDIA
Was involved in a project named Software Defined HVAC - Build smart solution for enterprise HVACs (Heating, Ventilation and Air-Conditioning System) without using any 3rd party sensors. Using HVAC as a sensor itself to perform fine-grained occupancy detection and duty cycling its operation to achieve power savings was the final objective.
Supervisor: Dr. Ramachandran Ramjee
- 2011
(3 months) | *Remote Mentoring Project Intern* - IBM, KOLKATA, INDIA
Was involved in the creation of a data model to capture coding-standards and developing a parser to check COBOL Program against the defined standards.
Supervisors: Mr. Sripathi R Dantuluri, Mr. Joydeep Banerjee

2011 (3 months)	<p><i>Summer Intern</i> - SAHA INSTITUTE OF NUCLEAR PHYSICS, KOLKATA, INDIA</p> <p>Was involved in improvising the split and merge clustering technique using rough data set concepts, and applying the modified algorithm on practical data set like IRIS data set to check its efficiency.</p> <p>Supervisor: Dr. Gautam Garai</p>
2010 (3 months)	<p><i>Vocational Trainee</i> - MONIBA COMPU ACADEMY PVT. LTD., KOLKATA, INDIA</p> <p>Was involved in the designing of a website using ASP.NET which allowed company employees to create an account, post queries or view the answers and comments posted by colleagues under the supervision of a system administrator, who had more privileges.</p> <p>Supervisor: Mr. Sumit Naik</p>

TEACHING EXPERIENCE

2015-2017	<i>Teaching Assistant</i> - CS4222, WIRELESS NETWORKING
2014-2016	<i>Teaching Assistant</i> - CS2105, COMPUTER NETWORKING

PUBLICATIONS

2018	<ul style="list-style-type: none"> • P. Appavoo, E. K. William, M. C. Chan, and M. Mohammad. Indriya2: A heterogeneous wireless sensor network (wsn) testbed. In <i>International Conference on Testbeds and Research Infrastructures</i>. Springer, 2018 • M. Mohammad and M. C. Chan. Codecst: supporting data driven in-network processing for low-power wireless sensor networks. In <i>IPSN</i>. IEEE, 2018 • M. Mohammad, R. Joshi, and M. C. Chan. Eletrack: Ultra-low-power retrofitted monitoring for elevators. In <i>EWSN</i>. ACM, 2018
2017	<ul style="list-style-type: none"> • M. Mohammad, M. Doddavenkatappa, and M. C. Chan. Improving performance of synchronous transmission based protocol using capture effect over multi-channels. In <i>TOSN</i>. ACM, 2017
2016	<ul style="list-style-type: none"> • S. Duquennoy, O. Landsiedel, C. A. Boano, M. Zimmerling, J. Beutel, M. C. Chan, O. Gnawali, M. Mohammad, L. Mottola, L. Thiele, et al. A benchmark for low-power wireless networking. In <i>Sensys</i>. ACM, 2016 • M. Mohammad, X. Guo, and M. C. Chan. Oppcast: Exploiting spatial and channel diversity for robust data collection in urban environments. In <i>IPSN</i>. ACM, 2016 • M. Mohammad, X. Guo, and M. C. Chan. Demo abstract: Enabling robust data collection in unplanned cross-technology interference of urban environments. In <i>IPSN</i>. ACM, 2016 (best demo award) • X. Guo, M. Mohammad, S. Saha, and M. C. Chan. Psync: Visible light-based time synchronization for internet of things (iot). In <i>INFOCOM</i>. ACM, 2016 • M. Mohammad, X. Guo, and M. C. Chan. Demo abstract: Robust data collection despite cross-technology interference in urban environments. In <i>ICDCN</i>. ACM, 2016
2015	<ul style="list-style-type: none"> • M. Mohammad. Tackling self interference, cross-technology interference and channel fading in wireless sensor networks. In <i>SenSys - Doctoral Colloquium</i>. ACM, 2015
2014	<ul style="list-style-type: none"> • R. Banerjee, M. Mohammad, and S. DasBit. Partial dct-based energy efficient compression algorithm for wireless multimedia sensor network. In <i>CONECCT</i>. IEEE, 2014
2011	<ul style="list-style-type: none"> • A. Ghosal, S. Halder, M. Mohammad, R. K. Saraogi, and S. DasBit. A jamming defending data-forwarding scheme for delay sensitive applications in wsn. In <i>Wireless VITAE</i>. IEEE, 2011 (best paper award)