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# Sunny Sanyal

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**Research Interests:** Wireless Networks | Network Architecture | Machine Learning | Optimization  
**Applications:** Internet of Things | Performance trade-offs | Cooperative Communications | Federated Learning

## Education

**Chongqing University of Posts and Telecommunications (CQUP), China** 09/2016-06/2019  
Master of Engineering in Communication and Information Systems  
Dissertation: Data Aggregation Techniques for Internet of Things GPA: 92.22/100  
Advisor: Prof. Wu Dapeng [[google scholar](#)]

**Maulana Abul Kalam Azad University of Technology, India** 08/2011-07/2015  
(Formerly known as West Bengal University of Technology, India)  
Bachelor of Technology in Electronics and Communication Engineering DGPA: 8.23/10

## Work Experience

**The Key Laboratory of Ubiquitous Sensing and Networking in Chongqing, P.R. China** 10/2016-present  
Graduate research student  
Collaborators: Prof. Wu Dapeng, Dr. Zhang Puning, Yan Junjie, [Boubakr Nour](#)

- Worked on four projects jointly funded by NSF, China and the provincial government of Chongqing
- Approaches used: Bayesian rough sets, Optimization, Subspace tracking and estimation, federated filtering, LSTM encoder decoder architecture

**Tech Mahindra Limited, Hyderabad, India** 08/2015-08/2016  
Associate software engineer

- Worked within the offshore team to develop a website for [ACRA](#) government of Singapore
- Training and implementation: Oracle ADF, basic java, SQL

**Tronix India company, Kolkata, India** 2013-2015  
Co-founder and Manager

- Developed prototypes, raised funds, held meetings with investors
- Participated in Industrial India trade fair 2014 as a company and received 700+ visitor's feedbacks

**Indian Statistical Institute, Computer Vision and Pattern Recognition Lab, India** 07/2014-08/2014  
Summer Internship, Advisor: Dr. Sarbani Palit [[homepage](#)]

- Developed an prototype (hardware and software) for webcam based video pattern matching application

**Tezpur University, Computer Science Department, India** 06/2014-07/14  
Research Internship, Advisor: Dr. B. Bora [[google scholar](#)]

- Designed and simulated a digital image filter for noise removal in grey scale images [[report](#)]

## Peer-Reviewed Publications

- **Sunny Sanyal**, "Data Aggregation Techniques for Internet of Things ", Master's Thesis, Chongqing University of Posts and Telecommunications, Chongqing, China, 24 June 2019. [[link](#)] **[Excellent Master's Thesis Award]**
- **Sunny Sanyal**, Boubakr Nour and Hassine Mouncla "Advanced Deep Neural Networks at the Edge of Internet of Things", Elsevier Computer Communications. [submitted | IF: 2.766]
- **Sunny Sanyal**, Animesh, Bin Zhou and Jean, "DeepMines: A fog enabled prediction platform for underground coal mines", Project Report, IEEE ComSoc Student's Competition 2018. **[Honorary Mention Award]** [Currently submitted to MINDS Workshop at IEEE COMSNETS 2020, Bengaluru, India]
- **Sunny Sanyal**, Dapeng Wu, Boubakr Nour, "A Federated Filtering Framework for Internet of Medical Things", IEEE ICC 2019 conference, Shanghai, China, 20-24 May 2019. [[link](#)] [Top ~1%]
- **Sunny Sanyal**, Puning Zhang, "Improving Quality of Data: IoT data aggregation using device to device communications", IEEE Access, Vol. 6, page. 1-11, Nov. 2018. [[link](#)] [IF: 4.098]

- **Sunny Sanyal**, Wu Dapeng, Junjie Yan, Xing Li, "Co-relative mobility based IoT data uploading using D2D communication", In Proc. of 10<sup>th</sup> EAI Mobimedia, Chongqing, China, 13-14 July 2017. [\[link\]](#)
- Dapeng Wu, Junjie Yan, **Sunny Sanyal**, Ruyan Wang, "Trust oriented partner selection in D2D cooperative communications", IEEE Access, Vol. 5, page. 3444-3453, February 2017. [\[link\]](#) [IF: 4.098]
- Simpy Sanyal, **Sunny Sanyal**, "Exhilaration of Fuel Economy via Genetic Algorithm", Indian Centre for Advanced Scientific and Technological Research journal of engineering, Vol. 8, No. 2(2015), May 2015. [\[link\]](#)
- **Sunny Sanyal**, Simpy Sanyal, "Automatic switching of home appliances one sensor to many system approach", In Proc. of 6<sup>th</sup> IEEE Power India International Conference, Delhi, India, 6<sup>th</sup> Dec 2014. [\[link\]](#)
- **Provisional Patent** "Communication System for dumb (Dumb Shirt)" Application ID: 400/KOL/2015. [\[link\]](#)

## Selected Academic Distinctions

• Excellent Master's Thesis Award, Chongqing Univ. of Posts and Telecom, China	06/2019
• Outstanding International Student Award, International College of CQUPT, China	06/2019
• Technology Innovation Award (科技创新奖), International College of CQUPT, China	04/2019
• Honorary Mention Award in IEEE ComSoc Student's Competition 2018	11/2018
• Selected by the Indian ministry of education (MHRD) for the prestigious Chinese Government Scholarship with a round trip travel grant.	2016-2019
• Selected for IEEE summer school 2018 with IEEE accommodation grant	06/2018
• Secured 2 <sup>nd</sup> position in national level embedded systems design contest at 'KSHITIJ-2013', Indian Institute of Technology <a href="#">[link]</a>	02/2013
• Offered conference travel grant to USA by Indian national academy of engineering	11/2014
• Secured 3 <sup>rd</sup> position in project idea competition, 'E-nnovation'	07/2014
• Received newspaper coverage for project Communication system for people with disability in speech	04/2014
• Secured 3 <sup>rd</sup> position in Project exhibition competition, 'Inquivesta' at Indian Institute of Science Education and Research, Kolkata	02/2014
• Best Paper award in inter university Paper presentation event, 'Paridhi',	01/2014
• Secured 2 <sup>nd</sup> position in technical project Idea competition, 'EXSORSA-2013'	03/2013

## Professional services

- [IEEE Access](#) Journal. **[reviewer]**
- [IEEE VTC 2019-Fall](#): Recent Results track, 2019, Honolulu, Hawaii. **[reviewer]**
- [IEEE International Conference on Communications](#): SAC E-Health Track, 2019, Shanghai, China. **[reviewer]**
- [IEEE International Conf. on Computer Communications and Networks](#), 2019, Spain. **[reviewer]**
- [ACM/SIGAPP Symposium On Applied Computing](#), 2019, Cyprus. **[program committee]**
- [IEEE International Conference on Emerging and Emerging Technologies](#), 2019, Lahore, Pakistan. **[program committee]**
- [EAI International conference on future access enablers of ubiquitous and intelligent infrastructure](#), 2019, Bulgaria. **[TPC]**
- [EAI International conference on ubiquitous communications and network computing](#), 2019, India. **[publicity co-chair]**
- [EAI International conference on innovations and interdisciplinary solutions for underserved areas](#), 2019, Egypt. **[reviewer]**

**Membership:** IEEE student member, IEEE Communications society, IEEE Internet of things community, IEEE young professionals, Quora Partner Program (by [invitation](#)), EAI member

**Invited Talk:** Global Youth Talk 2017, Chongqing, China [\[video\]](#)[\[certificate\]](#)

**University representative:** Smart China Expo 2018: 5G forum, Chongqing, China

## Non Academic Distinctions

- Secured 2<sup>nd</sup> position in Belt and road business innovation challenge 2017, China
- Secured 2<sup>nd</sup> position in Scotia Bank data analytic Challenge 2016 hosted by Tech Mahindra, Canada
- Participated in '[Google start up weekend](#) 2015' organized by [NASSCOM](#) at [IIM](#) Calcutta, India

**Computing Skills:** Matlab, Octave, SQL, Java (basic), Python (amateur) || **Language Skills:** English, Chinese, Hindi, Bengali, Chhattisgarhi