Sai Mounika Errapotu

Assistant Professor, Department of Electrical and Computer Engineering
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EDUCATION

- **University of Houston**, Houston, TX   May 2018
  - Ph.D. in Electrical and Computer Engineering
  - Ph.D. Dissertation: "Secure Computing with Privacy Preservation for Cyber-Physical Systems"
  - GPA: 3.95
  - Advisors: Dr Miao Pan, Dr Zhu Han

- **Jawaharlal Nehru Technological University**, India   May 2013
  - B.Tech in Electronics and Communication Engineering
  - GPA: 3.7

PROFESSIONAL EXPERIENCE

- **Assistant Professor**   Aug 2019 – Present
  University of Texas at El Paso, El Paso, TX

- **Post-doctoral Researcher**   May 2018 – July 2019
  University of Houston, Houston, TX
  Cognitive Radio Networks, Cyber Physical Systems and Cybersecurity Lab

- **Graduate Research Assistant**   Jan 2014 – May 2018
  University of Houston, Houston, TX
  Cognitive Radio Networks, Cyber Physical Systems and Cybersecurity Lab
  Wireless Networking, Signal Processing and Security Lab

RESEARCH INTERESTS

- Cybersecurity
  - Security and Privacy in Wireless Networks
  - Trust Modeling and Metrics
  - Security and Privacy in various Cyber Physical Systems
  - Optimization and Performance Analysis in Cyber Physical Systems
  - Security and Privacy in Cloud and Fog Computing

- Information Security and Privacy
  - Differentially Private Data Analysis

- Privacy Preserving Data Driven Optimization
- Privacy Preserving Big Data Analytics

- Mobile and wireless security and privacy

  - Internet-of-Things (IoT)
  - Privacy in Mobile Crowdsourcing applications

- Cognitive Radio Networks

  - Spectrum Trading and Network Economics
  - Privacy issues in Cognitive Radio Networks

PUBLICATIONS

- **Books**
  - "Big Data Privacy Preservation for Cyber Physical Systems", Electrical and Computer Engineering Briefs, *Springer*, 2019.

- **Journal Publications**
  - Jiahao Ding, Sai Mounika Errapotu, Yuanxiong Guo, Haixia Zhang, Dongfeng Yuan and Miao Pan, "Private Empirical Risk Minimization with Analytic Gaussian Mechanism for Healthcare System" accepted for publication in *IEEE Transactions on Big Data*.
  - Dian Shi, Jiahao Ding, Sai Mounika Errapotu, Hao Yue, Wenjun Xu, Xiangwei Zhou and Miao Pan, "Deep Q-Network Based Route Scheduling for TNC Vehicles with Passengers' Location Differential Privacy" accepted for publication in *IEEE Internet of Things*.
  - Sai Mounika Errapotu, Hongning Li, Rong Yu, Shaolei Ren, Qingqi Pei, Miao Pan and Zhu Han, "Clock Auction Inspired Privacy Preserving Emergency Demand Response in Colocation Data Centers," in *IEEE Transactions on Dependable and Secure Computing*, Oct 2018.
  - Sai Mounika Errapotu, Jingyi Wang, Yanmin Gong, Jin-Hee Cho, Miao Pan and Zhu Han, "SAFE : Secure Appliance Scheduling for Flexible and Efficient Energy Consumption for Smart Home IoT" in *IEEE Internet of Things Issue on AI Powered Network Management: Data Driven Approaches under Resource Constraints*, Aug 2018.
  - Sai Mounika Errapotu, Jingyi Wang, Xuanheng Li, Zaixin Lu, Wei Li, Miao Pan and Zhu Han, "Bid Privacy Preservation in Matching Based Multi-Radio Multi-Channel Spectrum Trading," in *IEEE Transactions on Vehicular Technology*, vol. 67, no. 9, pp.8336-8347, June 2018.
  - Jingyi Wang, Sai Mounika Errapotu, Yanmin Gong, Lijun Qian, Riku Jantti, Miao Pan and Zhu Han, "Primary Users' Operational Privacy Preservation via Data-Driven Optimization" in *IEEE Transactions on Cognitive Communications and Networking*, vol. 4, no. 2, pp.357-367, May 2018.
  - Jingyi Wang, Yan Long, Jie Wang, Sai Mounika Errapotu, Hongyan Li, Miao Pan and Zhu Han, "D-FROST: Distributed Frequency Reuse Based Opportunistic Spectrum Trading via Matching with Evolving Preferences" in *IEEE Transactions on Wireless Communications*, vol. 17, no. 6, pp.3794-3806, March 2018.

- **Conference Publications**
  - Xinyue Zhang, Jiahao Ding, Sai Mounika Errapotu, Xiaoxia Huang, Pan Li and Miao Pan, "Differentially Private Functional Mechanism for Generative Adversarial Networks," accepted for publication in emph IEEE Global Communications Conference (GLOBECOM), December 2019.
  - Jiahao Ding, Sai Mounika Errapotu, Haijun Zhang, Yanmin Gong, Miao Pan, and Zhu Han, "Stochastic ADMM Based Distributed Differential Privacy," accepted for publication in emphSecureComm, Orlando, October 2019.
  - Sai Mounika Errapotu, Jingyi Wang, Yanmin Gong, Mianxiong Dong, Miao Pan and Zhu Han, "Privacy Preserving ADMM for Smart Home: Cost-Aware Appliance Scheduling Using Fog Computing," in *IEEE Global Communications Conference (GLOBECOM)*, Abu Dhabi, UAE, Dec 2018.
  - Sai Mounika Errapotu, Justin Loveless, Rong Yu, Shaolei Ren, Miao Pan, and Zhu Han, "Privacy Preserving Clock Auction for Emergency Demand Response in Colocation Data Centers," *IEEE International Conference on Communications*, Paris, France, May 2017.
  - Sai Mounika Errapotu, Jingyi Wang, Zaixin Lu, Wei Li, Miao Pan, and Zhu Han, "Bidding Privacy Preservation for Dynamic Matching Based Spectrum Trading," *IEEE Global Communications Conference (GLOBECOM)*, Washington, DC, Dec. 2016.
  - Jingyi Wang, Yan Long, Jie Wang, Sai Mounika Errapotu, Yuanxiong Guo, and Miao Pan, "Distributed Spectrum Trading via Dynamic Matching with Evolving Preferences" in *IEEE International Conference on Communications in China (ICCC)*, Chengdu, China , July 2016.

AWARDS & RECOGNITION

- University of Texas System Board of Regents STARs Program Award for best qualified faculty
- NHERI Summer Institute award for Early Career Faculty, 2019
- Best Dissertation Award ECE, Spring 2018
- NSF iRedefine Workshop 2018

TEACHING

- **Instructor - EE 5390/4395 Introduction to Cybersecurity**
University of Texas at El Paso   (Fall 2019)

- **Teaching Assistant - ECE 6370 Advanced Digital Design**
University of Houston   (January 2016 – May 2016)
  - Tutored Verilog coding to 75 students in the labs
  - Worked with students on individual basis to reinforce coding concepts and complete project implementations

- **Teaching Assistant - ECE 6390 Linear Multi Variable Control Systems** and
ECE 6342 Digital Signal Processing
University of Houston   (August 2016 – December 2016)
  - Developed, administered and graded tests and assignments in a timely manner
  - Assisted instructor to clarify the queries of students on code testing and system design

- **Teaching and Guest Lectures -**
ECE 6390 Control Systems, **ECE 6370 Advanced Digital Design**, **ECE 6397 Introduction to Cybersecurity**, **ECE 6321 Signal Detection and Estimation** and **ECE 3436 Microprocessor Systems**
University of Houston   (January 2016 – May 2019)
  - Assisted instructors in the development of course material, assignments and exams

  - Guest lectured various topics in these courses

PROFESSIONAL ACTIVITIES

- Local Chair for Mobiquitous 2019 conference
- Technical Program Committee (TPC) Member:

  - IEEE SmartGridComm 2019

  - Mobiquitous 2019

- Reviewer for journals:
  - IEEE Internet of Things Journal

  - IEEE Journal on Selected Areas in Communications

  - IEEE Transactions on Wireless Communications

  - IEEE Transactions on Vehicular Technology

  - IEEE Access

  - IEEE Networking letters

  - IEEE Transactions on Smart Grid

- Reviewer for conferences:
  - IEEE International Conference on Communications (ICC)

  - IEEE Global Communications Conference (GLOBECOM)

  - IEEE Wireless Communications and Networking Conference (WCNC)

  - IEEE International Conference on Smart Grid Communications : Cybersecurity and Privacy (SGC)

  - IEEE International Conference on Computer Communications (INFOCOM)

  - IEEE International Conference on Communications in China (ICCC)

  - IEEE SmartGridComm
- IEEE member
- Member of Women in Cybersecurity, Networking Networking (N2) Women

EXTRA-CURRICULAR ACTIVITIES

- Active volunteer in Metropolitan Volunteer Program, University of Houston.
- Event coordinator for the non-governmental organization Yuvavaradhi to spread the need of education in rural India.
- Volunteered at the Free Software Movement of India National Convention for Academics and Research.
- Co-founded an initiative under street-cause Sahaay that serves, educates and cares for orphans and homeless children in need. Also organized blood donation campaigns.