

CURRICULUM VITAE

Rajorshi Biswas

Address: 1925 N 12th St, Philadelphia, PA 19122.

Email: raajorshi@temple.edu

Website: www.raajorshibiswas.com

Objective

Advancing research in computer networks and security to make a positive impact for academic and industry communities.

Educational Background

- B.Sc.
 - Major: Computer Science & Engineering
 - School: Bangladesh University of Engineering & Technology
 - Graduation Date: July 2014
- Ph.D.
 - Major: Computer Science
 - School: Temple University
 - Expected Graduation Date: July 2021

Publications (Journals)

- R. Biswas, and J. Wu. "Traffic Engineering to Minimize The Number of Rules in SDN Datacenters", submitted to *IEEE Transaction on Network Science and Engineering*.
- R. Biswas, J. Wu, W. Chang, and P. Ostovari. "Optimal Filter Assignment Policy Against Transit-link Distributed Denial-of-Service Attack", submitted to *IEEE Transaction on Secure and Dependable Computing*.
- Y. Chen, J. Wu and R. Biswas. "VNF Backup Allocation and Assignment for Reliable Service Chains", submitted to *IEEE Transactions on Reliability*.
- R. Biswas, and J. Wu. "Sampling Rate Distribution for Flow Monitoring and DDoS Detection in Datacenter", accepted to appear in *IEEE Transaction on Information Forensic and Security* in 2021.
- Y. Chen, J. Wu and R. Biswas. "Grouping Service Chains of Multiple Flows in NFV-based Networks", in *IEEE Transaction on Network Science and Engineering*, 2020.
- R. Biswas and J. Wu, "Optimal Filter Assignment Policy Against Distributed Denial-of-Service Attack," in *IEEE Transactions on Dependable and Secure Computing* in 2020.
- R. Biswas, J. Wu, X. Du and Y. Yang "Mitigation of the spectrum sensing data falsifying attack in cognitive radio networks", in *Cyber-Physical Systems*, in 2020.
- R. Biswas and J. Wu, "Minimizing the Number of Channel Switches of Mobile Users in Cognitive Radio Ad-Hoc Networks" in *J. Sens. Actuator Netw.* 2020, 9, 23.
- R. Biswas, and J. Wu. "Preserving source and destination location privacy with controlled routing protocol." in *International Journal of Security and Networks* in 2018.

Publications (Conferences)

- R. Biswas, J. Wu, and Y. Chen. "Minimizing the Number of Rules to Mitigate Link Flooding Attack in SDN-based Datacenters", submitted to IEEE International Conference on Distributed Computing Systems.
- R. Biswas and J. Wu "Protecting Resources Against Volumetric and Non-volumetric Network Attacks", will be submitted to IEEE/ACM International Symposium on Quality of Service.
- R. Biswas, J. Wu, and Y. Chen," Optimal Monitor Placement Policy Against Distributed Denial-of-Service Attack in Datacenter, " in Resilience Week 2019 Symposium, November 4-7, 2019.
- R. Biswas, J. Wu, and A. Srinivasan," Cost-Aware Optimal Filter Assignment Policy Against Distributed Denial-of-Service Attack, " in Resilience Week 2019 Symposium, November 4-7, 2019.
- R. Biswas, J. Wu, and X. Li " A Capacity-Aware Distributed DoS Attack in Low-Power and Lossy Networks" in The 40th IEEE Sarnoff Symposium 2019.
- R. Biswas, J. Wu, W. Chang, and P. Ostovari " Optimal Filter Assignment Policy Against Transit-link Distributed Denial-of-Service Attack" in IEEE Global Communications Conference 2019.
- R. Biswas, J. Wu., and X. du "Mitigation of the Spectrum Sensing Data Falsifying Attack in Cognitive Radio Networks" in IEEE International Conference on Communications 2019.
- R. Biswas, and J. Wu. "Co-existence of LTE-U and Wi-Fi with Direct Communication." in IEEE International Conference on Communications 2019.
- R. Biswas, and J. Wu. " Filter Assignment Policy Against Distributed Denial-of-Service Attack." in 24th International Conference on Parallel and Distributed Systems 2018.

Publications (Book Chapters)

- R. Biswas, and J. Wu. "Cognitive Radio Network Technologies and Applications" in Emerging Wireless Communication and Network Technologies. Springer, Singapore, 2018. 13-36.

Graduate Courses

- Programming Techniques
- Computer Architecture
- Principles of Data Management
- Cloud Computing,
- Ad Hoc Networks
- Operating Systems
- Computer Vision
- Pervasive and Mobile Systems,
- Distributed Systems
- Computer Networking
- Machine Learning
- Data-intensive and cloud computing.

Work Experience

- Volunteered as networks administrator at BracNet from 2012 to 2014.
- Worked 2 years as programmer at Aamra Networks Ltd, Bangladesh, from Sept 2014 to July 2016.

Teaching Experience:

Worked as a teaching assistance and instructed in the labs of the following courses since Aug 2016:

- C Programming Language
- Software Design
- Android Programming
- Advance Mobile Application Development

Mentoring Experience

Mentored four undergraduate students as a part of REU program.

- Temple University: Sungji Kim, Khai Nguyen, and Junxiang Wen
- Grinnell College: Kadamawit Habte.

Reviewing Experience

Peer-reviewed several papers in the following journals and conferences:

- IEEE Communication Letters
- IEEE Transactions on Communications
- Transactions on Network Science and Engineering
- IEEE International Conference on Communications
- MDPI: Mobile Ad Hoc Networks: Recent Advances and Future Trends

Skills

- Programming Languages: C/C++, Java, PHP, JavaScript, C#, Python, Android.
- Frameworks: Ajax, CodeIgniter, hmvc codeigniter, ASP.NET (MVC), JSP, OpenGL, Map-reduce, MPI.
- Databases: Oracle, MySQL. Embedded Systems: Arduino, Atmega32.
- Other Skills: Hadoop, Spark, Linux, Cisco packet tracer, NS3, Matlab, Linux system call implementation, driver implementation, shared memory operations.

Projects

- Undergraduate Projects: Simple Fortran Compiler, Read Write Join implementation in NACHOS (Java), 4-bit Computer Design, P2P lan messenger with voice call.
- Graduate Projects: Track Following Robot, Malicious Program Detection in Arduino, Air Quality Monitor.
- Professional Projects:
 - Loyalty System (system to give loyalty for customers using cards, pos, web)
 - Robi Cloud Storage (an online storage provider system like google drive, dropbox)
 - Internet Payment Gateway (a payment service provider for merchants)

Awards

- Summer Research Fellowship by Temple University in 2018.

Research Projects

- SpecEES: Collaborative Research: Study of the Tradeoff between Spectrum Allocation Efficiency and Operation Privacy in Dynamic Spectrum Access Systems (by National Science Foundation).
- NeTS: Coexistence of Heterogeneous Wireless Access Technologies in the 5 GHz Bands (by National Science Foundation).
- Moving Target Defense in Military Organization with Connected Dominating Set as Command Units (by Army Research Organization).
- Cyber Forensics Toolkit for Machinery Control (by Office of Naval Research).

References

- Jie Wu
Laura H. Carnell Professor, Department of Computer and Information Sciences, Temple University.
Email: jiewu@temple.edu
Nature of contact: Ph.D. Supervisor
- Michael Wehar
Visiting Assistant Professor, Swarthmore College.
Email: mwehar1@swarthmore.edu
Nature of contact: TA Instructor
- Karl Morris
Associate Professor, Department of Computer and Information Sciences, Temple University.
Email: karl.morris@temple.edu
Nature of contact: TA Instructor
- Xiao-Jiang Du
IEEE Fellow, Professor, Department of Computer and Information Sciences, Temple University.
Email: dux@temple.edu
Nature of contact: Research Coordinator

Other Links

- Google Scholar: <https://scholar.google.com/citations?user=ikKG6R8AAAAJ>
- LinkedIn: <https://www.linkedin.com/in/rajaorshi-biswas-92632895>