Curriculum Vitae

Khondaker Musfakus Salehin

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: https://www.researchgate.net/profile/Khondaker-Salehin

Academic Appointments

Sweo Endowed Assistant Professor, Aug. 2022 – Present
Department of Computer Science
University of Portland (UP), USA

Assistant Professor, Aug. 2019 – Aug. 2022
Department of Computer Science
California State University, Dominguez Hills (CSUDH), USA

Assistant Professor, Aug. 2017 – Jun. 2019
Department of Technology
Illinois State University (ISU), USA

Visiting Assistant Professor, Aug. 2015 – Jun. 2017
Computer Science Program
Bard College, USA

Postdoctoral Research Associate, Sept. 2013 – May 2015
Department of Electrical and Compute Engineering (ECE Department)
New Jersey Institute of Technology (NJIT), USA

Education

Ph.D. in Electrical Engineering, May 2013
New Jersey Institute of Technology (NJIT), New Jersey, USA
Thesis: End-to-End Network Measurement for Wired and Wireless Network

M.Sc. in Telecommunications, Dec. 2007
NJIT, New Jersey, USA
Thesis: Proactive Methods for Measurement of Available Bandwidth and Link Capacity

B.Sc. in Computer Science and Engineering, Nov. 2004
Ahsanullah University of Science and Technology (AUST), Dhaka, Bangladesh
Thesis: Design and Development of AUST Alumni Database Driven Dynamic Website

Courses Taught

CS 203: Introduction to Computer Science - S24 (UP)

CS 273: Computer Science Laboratory - F24, S25 (UP)

CS 305: Data Structures - F22, S24, F24, S25 (UP)

CS 334: Operating Systems - S24, S25 (UP)

CS 333: Computer Architecture - F22, F23, F24 (UP)

CS 445/545: Computer Networks and Internetworking - F23 (UP)

CSC/ITC 251: The C Programming Language - S20, S21, F21, S22 (CSUDH)

CSC 401/501: Analysis of Algorithms - F20, F21, S22 (CSUDH)

CSC 281: Discrete Structures - S22 (CSUDH)

CSC 331: Computer Organization - F19 to S21 (CSUDH)

CTC 228: Introduction to Operating Systems and Networks - F19 (CSUDH)

TEC 283: Information and Imaging Technology (Java Programming) - F17 to S19 (ISU)

TEC 319: Graphical Software Interfaces (Dynamic Web Design) - F17 to S19 (ISU)

TEC 284: Technical Computer Applications (Computer Architecture) - S18, S19 (ISU)

TEC 151: Intro to Computer Systems Technology (Visual C# Programming) - F18 (ISU)

CMSC 143: Object-Oriented Programming with Robots - F15 to S17 (Bard College)

CMSC 335: Computer Networks - S16, S17 (Bard College)

CMSC 225: Computer Architecture - F15, F16 (Bard College)

ECE 683: Computer Network Design and Analysis - F13, S14, S15 (NJIT)

ECE 422: Computer Communications Networks - F14 (NJIT)

ECE 429: Computer Communications Laboratory - F13 (NJIT)

Grants

Butine Grant for Scholarship, 2024
Amount: $2,000 (Teaching and Scholarship Committee, UP)

Sweo Endowment Startup Grant, 2022 – 2025
Amount: $45,000 (Shiley School of Engineering, UP)

New Faculty Startup Support, 2019 – 2022
Amount: $30,000 (College of Natural and Behavioral Science, CSUDH)

University Research Grant Program, 2020
Amount: $5,000 (Office of Research and Graduate Studies, ISU)

New Faculty Startup Support, 2017 – 2019
Amount: $12,000 (Office of Research and Graduate Studies, ISU)

Inventions & Disclosures

R. Rojas-Cessa and **K. Salehin**, "Active Scheme for Measuring Latency of Interrupt Coalescence of a Remote Internet Host," *US Application Number 62/595687*, Filed Dec. 2017.

R. Rojas-Cessa and **K. Salehin**, "Method for Measuring Queuing Delays of Intermediate Nodes (i.e., Routers) in an End-to-End Path of a Packet Network," *NJIT Invention Disclosure 18-014*, Disclosed Oct. 2017

R. Rojas-Cessa and **K. Salehin**, "Measurement of Clock Skew between Two Remote Hosts Connected through Computer Networks," *US Patent Number 9501093*, Issued Nov. 2016.

R. Rojas-Cessa and **K. Salehin**, "Determination of Download Throughput of Wireless Connection with Compound Probes," *US Patent Number 9392475*, Issued Jul. 2016.

R. Rojas-Cessa and **K. Salehin**, "Measurement of Packet Processing Time of End Hosts through Estimation of End Link Capacity," *US Patent Number 9118557*, Issued Aug. 2015.

[† = Undergraduate student, ‡ = Graduate student]

Journal Publications

M. Vladucu, H. Wu, J. Medina, **K. Salehin**, Z. Dong, R. Rojas-Cessa, "Blockchain on Sustainable Environmental Measures: A Review," *Blockchains*, vol. 2, no. 3, pp. 334–365, 2024.

Y. Javed, **K. Salehin**, M. Shehab, "A Study of South Asian Websites on Privacy Compliance," *IEEE Access*, vol. 8, pp. 156067–156083, 2020. (impact factor: 3.4)

K. Salehin, K. Kwon†, and R. Rojas-Cessa, "A Simulation Study of the Measurement of Queueing Delay over End-to-End Paths," *IEEE Open Journal of the Computer Society*, vol. 1, no. 1, pp. 1–11, 2020. (impact factor: 5.7)

K. Salehin, V. Sahasrabudhe‡, and R. Rojas-Cessa, "Determination of Interrupt-Coalescence Latency of Remote Hosts through Active Measurement," *IEEE Access*, vol. 6, pp. 23019–23033, Apr. 2018. (impact factor: 3.4)

K. Salehin, R. Rojas-Cessa, and S. Ziavras, "A Method to Measure Packet Processing Time of Hosts using High-Speed Transmission Lines," *IEEE Systems Journal*, vol. 9, no. 4, pp. 1248–1251, Dec. 2015. (impact factor: 4.4)

K. Salehin and R. Rojas-Cessa, "Estimation of Packet Processing Time of Remote Hosts in the Presence of Interrupt Coalescence," *IEICE Communications Express*, vol. 4, no. 2, pp. 55–60, Feb. 2015. (impact factor: 0.73)

K. Salehin, R. Rojas-Cessa, C. Lin, Z. Dong, and T. Kijkanjanarat, "Scheme to Measure Packet Processing Time of a Remote Host through Estimation of End-Link Capacity," *IEEE Transactions on Computers*, vol. 64, no. 1, pp. 205–218, Jan. 2015. (impact factor: 3.6)

K. Salehin and R. Rojas-Cessa, "Scheme for Measuring Queueing Delay of a Router using Probe-Gap Model: The Single-Hop Case," *IEEE Communications Letters*, vol. 18, no. 4, pp. 696–699, Apr. 2014. (impact factor: 3.7)

K. Salehin and R. Rojas-Cessa, "Active Scheme to Measure Throughput of Wireless Access Link in Hybrid Wired-Wireless Network," *IEEE Wireless Communications Letters*, vol. 9, no. 4, pp. 645–648, Dec. 2012. (impact factor: 4.6)

K. Salehin and R. Rojas-Cessa, "Scheme to Measure Relative Clock Skew of Two Internet Hosts Based on End-Link Capacity," *IET Electronics Letters*, vol. 48, no. 20, pp. 1282–1284, Sept. 2012. (impact factor: 0.7)

K. Salehin and R. Rojas-Cessa, "A Combined Methodology for Measurement of Available Bandwidth and Link Capacity in Wired Packet Networks," *IET Communications*, vol. 4, no. 2, pp. 240–252, Jan. 2010. (impact factor: 1.5)

[† = Undergraduate student, ‡ = Graduate student]

Peer-Reviewed Conference Publications

N. Khan†, M. Hasan, S. Islam, **K. Salehin**, M. Welzl, B. Feng, and E. Oki, "Flow-Label Trends in IPv6 Traffic: A 9-Year Analysis of Japanese Dataset", *IEEE International Conference on High Performance Switching and Routing*,Osaka, Japan, May 2025, pp. 1–6.

K. Salehin, T. Ricker†, , Y. Wang, A. Chen, and E. Oki, "A Machine Learning Approach to Estimating Queuing Delay on Routers: The Multiple-Hop Case," *IEEE International Telecommunication Networks and Applications Conference*, Sydney, Australia, Nov. 2024, pp. 1–4. (**Best Short Paper Award**)

G. Aristia and **K. Salehin**, "Transparent Carbon Capture and Storage Using Blockchain Technology," *International Conference on Applied Sciences and Smart Technologies*, Yogyakara, Indonesia, Oct 2023, pp. 1–9. (**Best Presenter Award**)

T. Ricker†, **K. Salehin**, Y. Wang, A. Chen, E. Oki, and R. Rojas-Cessa, "A Machine-Learning Approach to Estimating Queuing Delay on a Router over a Single-hop Path," *IEEE International Conference on Communications*, Seoul, South Korea, May 2022, pp. 2272-2277. (acceptance rate: ∼38%)

D. Rumala‡, A. Kurniawan, E. Yuniarno, and **K. Salehin**, "An IoT Application for Smart Navigation of High Priority Vehicles (HPVs) Using Preemptive Traffic-Light Control," *IEEE International Conference on Computer Engineering, Network and Intelligent Multimedia*, Surabaya, Indonesia, Nov. 2020, pp 193–198.

K. Salehin, R. Rojas-Cessa, and K. Kwon†, "COMPRESS: A Self-Sufficient Scheme for Measuring Queueing Delay on the Internet Routers," *accepted to IEEE International Conference on Computing, Networking, and Communications*, Hawaii, USA, Feb. 2019, pp. 1–6. (acceptance rate: ∼28%)

K. Salehin, V. Sahasrabudhe‡, and R. Rojas-Cessa, "Remote Measurement of the Interrupt-Coalescence Latency of Internet Hosts," in Proc. of *IFIP Networking 2017 Conference and Workshops*, Stockholm, Sweden, Jun. 2017, pp. 1–9. (acceptance rate: ∼28%)

K. Salehin and R. Rojas-Cessa, "Method for Measuring the Packet Processing Time of Internet Workstations with the Detection of Interrupt Coalescence", in Proc. of *IEEE International Conference on High Performance Switching and Routing*, Yokohama, Japan, Jun. 2016, pp. 142–147.

K. Salehin and R. Rojas-Cessa, "Measurement of Packet Processing Time of an Internet Host using Asynchronous Packet Capture at the Data-Link Layer," in Proc. of *IEEE International Conference on Communications*, Budapest, Hungary, Jun. 2013, pp. 1143–1147. (acceptance rate: ∼39%)

K. Salehin and R. Rojas-Cessa, "Scheme to Measure Throughput and Available Bandwidth of Download Wireless Access Link in a Wired-Wireless Network," in Proc. of *Passive and Active Measurement*, Hong Kong, Mar. 2013, 1–2. (poster, did not avail, acceptance rate: ∼32%)

K. Salehin and R. Rojas-Cessa, "Packet-Pair Sizing for Controlling Packet Dispersion on Wired Heterogeneous Networks," in Proc. of *IEEE International Conference on Computing, Networking, and Communications*, CA, USA, Jan. 2013, pp. 1031–1035. (acceptance rate: ∼25%)

R. Rojas-Cessa, **K. Salehin**, and K. Egoh, "Experimental Performance Evaluation of a Virtual Router," in Proc. of *IEEE Sarnoff Symposium*, NJ, USA, May 2012, pp. 1–5. (acceptance rate: ∼43%)

R. Rojas-Cessa, **K. Salehin**, and K. Egoh, "Experimental Performance Evaluation of a Virtual Router," in Proc. of *IEEE International Workshop on Local and Metropolitan Area Networks*, NC, USA, Oct. 2011, pp. 1–2. (poster, acceptance rate: ∼53%)

K. Salehin and R. Rojas-Cessa, "Ternary Search Based Scheme to Measure Link Available Bandwidth in Wired Networks," in Proc. of *IEEE Global Communications Conference*, FL, USA, Dec. 2010, pp. 1–5. (acceptance rate: ∼35%)

K. Salehin and R. Rojas-Cessa, "Schemes to Measure Available Bandwidth and Link Capacity with Ternary Search and Compound Probe for Packet Networks," in Proc. of *IEEE International Workshop on Local and Metropolitan Area Networks*, NJ, USA, May 2010, pp. 1–5. (acceptance rate: ∼60%)

M. Habibie and **K. Salehin**, "Detection of Eavesdropping Attacks Over a Noisy Quantum Channel Using k-Means Clustering: A Case Study of BB84 Protocol", *under review*.

Presentations

A Machine Learning Approach to Estimating Queuing Delay on Routers: The Multiple-Hop Case at *International Telecommunication Networks and Applications Conference*, Sydney, Australia, Nov. 2024.

Accurate Estimation of End-to-End Path Delay without Instrumentation at *The DTEO's Expert Lecture Series on Industrial Automation and Global Experience*, Surabaya, Indonesia, Jun. 2024. (invited talk)

Improvement of Delay Estimation over End-to-End Paths at *The University of Portland Engineering Advisory Committee Meeting*, Porltand, USA, Apr. 2024. (invited talk)

Transparent Carbon Capture and Storage Using Blockchain at *International Conference on Applied Sciences and Smart Technologies*, Yogyakarta, Indonesia, Oct. 2023.

Machine-Learning Approach to Estimating Queuing Delay on a Router over a Single-hop Path at *IEEE International Conference on Communications*, Seoul, South Korea, May 2022.

Improvement of Delay Estimation over End-to-End Paths at *University of Indonesia*, Jakarta, Indonesia, Jul. 2020. (inviated talk)

Improvement of Delay Estimation over End-to-End Paths at *Institut Teknologi Sepuluh Nopember*, Surabaya, Indonesia, Jun. 2020. (invited talk)

Network Performance Measurement at *Informal Physics Seminar Series (Department of Physics, ISU)*, Normal, USA, Apr. 2019. (invited talk)

COMPRESS: A Self-Sufficient Scheme for Measuring Queueing Delay on the Internet Routers at *IEEE International Conference on Computing, Networking, and Communications*, Hawaii, USA, Feb. 2019.

Method for Measuring the Packet Processing Time of Internet Workstations with the Detection of Interrupt Coalescence at *IEEE International Conference on High Performance Switching and Routing*, Yokohama, Japan, Jun. 2016.

Experimental Performance Evaluation of a Virtual Router at *IEEE Sarnoff Symposium*, New Jersey, USA, May 2012.

Experimental Performance Evaluation of a Virtual Router at *IEEE Local and Metropolitan Area Networks*, North Carolina, USA, Oct. 2011. (poster)

Schemes to Measure Available Bandwidth and Link Capacity with Ternary Search and Compound Probe for Packet Networks at *IEEE Local and Metropolitan Area Networks*, New Jersey, USA, May 2010.

Combined Methodology for Measurement of Available Bandwidth and Link Capacity in Wired Packet Network at *IEEE Sarnoff Symposium*, New Jersey, USA, Apr. 2010. (poster)

Research Supervisions

Stian Hallerud Sundkvist (University of Oslo, currently at KaHoot!)

Travis Ricker (CSUDH)

Aasif Ajmeri (ISU, currently at Insight Global)

Patrick Kelly (Bard College, currently at Sideko)

Cafferty Frattarelli (Bard College, currently at World Ocean School)

Chance Wren (Bard College, currently at LeaseQuery)

Ki Won Kwon (Bard College, currently at Haven Technologies)

Muhsin King (Bard College, currently at Google)

Vinit Sahasrabudhe (NJIT, currently at Ford Motor Company)

Service

UP

Shiley Presenter: Weekend on the Bluff (Apr. 2025)

Member: Shiley School of Engineering Retention Task Force (Feb. 2025 – Apr. 2025)

Member: Presidential Advisory Committee on Student Media (Jan. 2025 – Feb. 2025)

Member: Curriculum and Academic Regulations Committee (Aug. 2024 – May 2027)

Shiley Open-House Presenter: Family Weekend (Feb. 2024)

Presenter: CS Comprehensive Exam Review Workshop (Feb. 2024)

Faculty Advisor: ACM Student Chapter (Aug. 2022 – Present)

CSUDH

Academic Advisor: Department of Computer Science (Aug. 2020 – May 2023)

Faculty Advisor: IEEE Computer Club (Aug. 2019 – May 2023)

Member: CS Part-time Lecturer Evaluation Committee (Jan. 2020 – May 2023)

Member: Search Committee for Vice President, University Advancement (Jun. 2020)

ISU

Member: Undergraduate Awards Committee (Jan. 2019 – Jun. 2019)

Bard College

Academic Advisor: Computer Science Program (Jan. 2017 – Jun. 2017)

Member: Undergraduate Pre-advising Board (Aug. 2015 – May 2017)

Member: Undergraduate Senior-project Board (Jan. 2016 – May 2017)

NJIT

Judge: Dana Knox Research Showcase (2015), Graduate Student Research Day (2014)

Qualifying-exam Board: ECE Department (2014)

Open-house Instructor: ECE Department (2009)

Institute of Electrical and Electronics Engineers (IEEE)

Member: IEEE Senior Member Application Virtual Review Panel (2024)

Journal Review

Elsevier Computer Communications

Elsevier Optical Switching and Networking

Elsevier Vehicular Communications

IEEE Transactions on Network and Service Management

IEEE Transactions on Vehicular Technology

IEEE Access

IEEE Communications Letters

IEEE Systems Journal

IEEE Sensors Journal

IEEE Communications Magazine

IET Networks, Wiley International Journal of Communication Systems.

Conference Organizing Committee

Publicity Chair – IEEE International Conference on High Performance Switching and Routing (2020)

Webmaster – IEEE Sarnoff Symposium (2012)

Conference Session Chair

IEEE Global Communications Conference: Next Generation Wireless Networks (2016)

IEEE Global Communications Conference: Next Generation Networks I (2016)

Conference Technical Program Committee

IEEE International Conference on Communications (2018, 2019, 2020, 2021, 2022, 2024, 2025)

IEEE Global Communications Conference (2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025)

IEEE International Conference on Computing, Networking and Communications (2024, 2025)

IEEE World Forum of Internet of Things (2025)

IEEE Conference on Standards for Communications and Networking (2022, 2023, 2024)

IEEE Future Networks World Forum (2022, 2023, 2024)

IEEE Symposium on Computers and Communications (2017, 2018, 2019, 2020, 2021, 2022)

Computer Science Conference for CSU Undergraduates (2021)

IEEE International Conference on Cyber-Physical Social Intelligence (2021)

IEEE 5G World Forum (2018, 2019, 2020)

ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (2017, 2018, 2019)

International Conference on Networking and Network Applications (2016)

IEEE Sarnoff Symposium (2015).

Conference Paper Review

IEEE International Workshop on Big Data and Information Security (2020)

IEEE European Conference on Networks and Communications (2017)

IEEE Green Computing and Communications (2014, 2016)

IEEE Wireless Communications and Networking Conference (2014, 2015, 2016)

IEEE International Conference on Communications (2014, 2015)

IEEE International Conference on Connected Vehicles and Expo (2014)

IEEE Sarnoff Symposium (2011, 2012)

IEEE International Conference on High Performance Switching and Routing (2010).

Masters Thesis Committee

External Examiner: University of Oslo, Norway (2022)

Awards & Honors

Best Short Paper Award
IEEE International Telecommunication Networks and Applications Conference, Australia, 2024

Best Presenter Award
International Conference on Applied Sciences and Smart Technologies, Indonesia, 2023

Best International Contribution Award
IEEE International Conference on Computer Engineering, Network and Intelligent Multimedia, Indonesia, 2020

Career Workshop Travel Award
National Science Foundation, 2020

Conference Presentation Travel Grant
College of Applied Science and Technology, ISU, 2019

Graduate Student Award
New Jersey Inventors Hall of Fame, 2013

Outstanding Graduate Student
Department of Electrical and Computer Engineering, NJIT, 2013

Special Achievement Award
Graduate Student Association, NJIT, 2013

Certificate of Appreciation
IEEE Princeton/Central Jersey Section, 2012

Hashimoto Fellowship
Department of Electrical and Computer Engineering, NJIT, 2011 & 2012

General Achievement Award
Graduate Student Association, NJIT, 2010 & 2012

Student Poster Award (2^{nd} place)
IEEE Sarnoff Symposium, 2010

Student Travel Grant
Passive and Active Measurement Conference, 2009

Professional Memberships

Senior Member, IEEE

Member, IEEE Communications Society

Member, Association for Computing Machinery (ACM)

Member, The Institution of Engineers, Bangladesh (IEB)

Professional Development

Some Assembly Still Required: How K-12 Reforms and Recent Disruptions Created Gen Z's Baffling Habits - S25 (UP)

Distracted: Why Students Can't Focus and What You Can Do About It by James M. Lang - F24 (UP)

IEEE International Telecommunication Networks and Applications Conference 2024 (Sydney, Australia)

ACM Technical Symposium on Computer Science Education 2024 (Portland, Oregon)

Inclusive Teaching Scholars Program: Strategies for Promoting Equity in the College Classroom by Kelly A. Hogan and Viji Sathy - S24 (UP)

International Conference on Applied Sciences and Smart Technologies 2023 (Yogyakarta, Indonesia)

National Effective Teaching Institute Workshop: NETI-1 Course Design and Student Engagement - S23 (UP)