Morteza Shoushtari

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Professional Summary

Currently employed as a System Engineer at Supermicro Inc, holding a Ph.D. in Electrical and Computer Engineering with a specialization in the PHY layer of wireless communication. Possesses extensive expertise in wired, wireless, and cellular network technologies and standards, and is presently dedicated to developing network infrastructure for AI applications.

Skills

Wired/Wireless Network Architecture, Infrastructure, and Protocols | Cellular Networks Technologies (LTE/5G) | Protocol Stack (PHY, MAC, RLC, PDCP, RRC, SDAP) | TCP/IP and OSI | 802.3 (Ethernet), 802.11 (WiFi), 802.15 (Bluetooth, Zigbee) | IP Networking | IPv4 and IPv6 | FLSM and VLSM | L2 Switching (VLAN, STP, LACP) | L3 Routing (EIGRP, OSPF, BGP, MPLS) | Server Operating System (Windows, Linux) | Virtualization Technologies | Network Troubleshooting Analysis (Wireshark) | Cloud Computing (AWS) | Software Defined Networking (SDN) | Process Automation | Infrastructure Cabling | Data Center Infrastructure | Network Security (NAT, ACL, SSL, TLS) | Cryptographic Algorithms (AES, DES, RSA) | Post-Quantum Cryptosystems | Error-Correction Coding (LDPC, Polar, Turbo, Viterbi) | Physical Layer Security

Programming Languages: C++, MATLAB

Certificates: CCNA, HCNA, MCITP, Network+, A+

Work Experience

Supermicro Inc. CA, USA
System Engineer *May 2024 – Present*

- Working on AI network infrastructure and AI data centers

Brigham Young University Utah, USA
Graduate Research Assistant *Jan 2019 – July 2023*

- Discovered new properties of secrecy coding from the perspectives of information and coding theory.
- Devised a high-speed algorithm to construct the optimal code in Nested Linear Secrecy Codes, enhancing code identification and selection efficiency.
- Conducted a detailed assessment and visualized secrecy problems such as eavesdropping in aeronautical mobile telemetry communication and suggested the use of secrecy coding and specialized version of post-quantum cryptosystems for this type of communication systems.

HUAWEI Tehran, Iran
Network Engineer *Aug 2016 – Aug 2017*

- Designed and implemented wired/wireless networks, and performed network maintenance and system upgrades.
- Maximized network performance and increased network availability by 99.99% by implementing a redundant network architecture.
- Performed installations and configurations, and support of various network devices such as switches (Huawei, Cisco), wireless access points (Huawei, Aruba), cameras, and video conferencing systems.

JYAN Tehran, Iran
Network Engineer *Jan 2016 – Aug 2016*

- Managed wired communication networks, and performed network maintenance and system upgrades.
- Monitor performance and ensure system availability and reliability.
- Performed installations and configurations of various network devices such as switches (Cisco), wireless access points (Aruba), cameras, and video conferencing systems.

Persia Cloud Tehran, Iran
Network Engineer *Jun 2015 – Jan 2016*

- Performed installations and configurations of HP servers, virtual machines (VMs), and Cisco switches.
- Administered SaaS and PaaS layers of the company's cloud platforms (Citrix, IIRAS).
- Managed and configured Microsoft application servers CRM, SharePoint, and Lync.

Education

Brigham Young University UT, USA
Ph.D. in Electrical and Computer Engineering; ***GPA: 3.78/4.00*** *Jan 2019 – July 2023*

Shiraz University Fars, Iran
M.Sc. in Information Technology; *2011 – 2013*

Selected Publication

- "Optimizing Finite Blocklength Nested Linear Codes: Using the Worst Code to Find the Best Code", Entropy Journal, MDPI, 2023.
- "Towards Practical Physical-Layer Security: Channel Measurements and Pedestrian Traffic", under review IEEE Transactions on Information Theory, 2023.
- "Classification of Coset Codes for Wiretap Channels", under review IEEE Transactions on Information Theory, 2023.
- "From Privacy Protection to Analyzing Users' Behavior: The Crucial Role of Information Theory in the Metaverse", IEEE Inter-mountain Engineering, Technology, and Computing Conference, 2023.
- "Secrecy Coding for the Binary Symmetric Wiretap Channel via Linear Programming", under review IEEE Transactions on Information Forensics and Security, 2023.
- "A Comparative Study of Waveforms Across Mobile Cellular Generations: From 0G to 5G and Beyond", under review IEEE Access, 2023.
- "Post-Quantum Cryptography Based on Codes: A Game Changer for Secrecy in Aeronautical Mobile Telemetry", in Proc. of the International Telemetry Conference (ITC), Las Vegas, NV, US, Oct. 2022.
- "Secrecy coding in the Integrated Network Enhanced Telemetry (iNET)", in Proc. of the International Telemetry Conference (ITC), Las Vegas, NV, US, Oct. 2021.
- "New Dual Relationships for Error-Correcting Wiretap Codes", in Proc. of IEEE Inform-ation Theory Workshop (ITW), Kanazawa, Japan, Oct. 2021.
- "On Caching with Finite Blocklength Coding for Secrecy over the Binary Erasure Wiretap Channel", in Proc. of IEEE Wireless Telecommunications Symposium (WTS), San Francisco, US, Apr. 2021.

Awards & Achievements

- Third place award, IEEE Intermountain Engineering, Technology, and Computing Conference (IEEE i-ETC), 2023.
- Best paper award, International Telemetry Conference, 2022.
- Second best graduate student paper award, International Telemetry Conference, 2021.
- Outstanding IT engineer in Huawei Technologies Company, 2017.

References

Available upon request.