Morteza Shoushtari

☐ +1 (408) 752-1087 | @ shoushtari.morteza@live.com | 🔗 LinkedIn | 🌐 Portfolio | 📍 Sunnyvale, CA | ★ Green Card Holder

PROFESSIONAL SUMMARY

A Ph.D. graduate in Electrical and Computer Engineering specializing in the PHY layer of wireless communication, with over 5 years of experience in network architectures. Hands-on expertise and knowledge of wired/wireless/cellular communication systems and protocols regarding Ethernet/WiFi/Bluetooth/LTE/5G. Skilled in automation and debugging logs, with strong analytical and troubleshooting skills.

SKILLS

Wired/Wireless/Cellular Communication: Architecture, Procedures, Standards, and Protocols | 802.3 (Ethernet), 802.11 (WiFi), 802.15 (Bluetooth, Zigbee) | TCP/IP Protocols (TCP, UDP, QUICK, SIP, DNS, DHCP, NAT, ICMP, VPN) | LTE/5G | Protocol Stack (PHY, MAC, RLC, PDCP, RRC, SDAP, NAS) | Radio Protocol Architecture (User/Control Plane) | Digital Communication System | Modulation Techniques | Source and Channel Encoder/Decoder | IP Networking | IPv4 and IPv6 | FLSM and VLSM | L2 Switching (VLAN, STP, LACP) | L3 Routing (EIGRP, OSPF, BGP, MPLS) | Log Analysis (iPerf, Wireshark, TCPdump) | Virtualization | Process Automation | Coding and Information Theory | Error-Correction Coding (LDPC, Polar, Turbo, Viterbi) | Network Security Protocols (ACL, SSL, TLS) | Cryptography Algorithms and Physical Layer Security.

Programming Languages: C++, MATLAB

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

WORK EXPERIENCE

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, wireless access points, 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, wireless AP, cameras, and video conferencing systems.

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

- Performed installations and configurations of Windows servers, virtual machines (VMs), and 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", upcoming publication, IEEE Transactions on Information Theory, 2024.
- "Classification of Coset Codes for Wiretap Channels", upcoming publication, IEEE Transactions on Information Theory, 2024.
- "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", upcoming publication, IEEE Access, 2024.
- "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 network engineer in Huawei Technologies Company, 2017.

References

Available upon request.