

# Morteza Shoushtari

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## PROFESSIONAL SUMMARY

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A Ph.D. graduate in Electrical and Computer Engineering, specializing in the PHY layer of wireless communication, with over 5 years of hands-on experience in implementing, configuring, and managing diverse network technologies. Possesses an in-depth understanding of LAN, WLAN, and WWAN technologies and standards. Expertise in process automation, log analysis, and a strong analytical and troubleshooting skillset.

## SKILLS

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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

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### Brigham Young University

*Graduate Research Assistant*

Utah, USA

*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

*Network Engineer*

Tehran, Iran

*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

*Network Engineer*

Tehran, Iran

*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

*Network Engineer*

Tehran, Iran

*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

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### Brigham Young University

*Ph.D. in Electrical and Computer Engineering; GPA: 3.78/4.00*

UT, USA

*Jan 2019 – July 2023*

### Shiraz University

*M.Sc. in Information Technology;*

Fars, Iran

*2011 – 2013*

## SELECTED PUBLICATION

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- “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

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- 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

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Available upon request.