

Mohammad Reza Gerami

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Professional Summary

Cybersecurity Architect and Deep-Tech Founder with 15+ years of industry experience engineering high-resilience, enterprise-grade security infrastructures. Founder of QuantumGuard Bridge, currently completing a PhD at Polytechnique Montréal in Post-Quantum Cryptography (PQC) and automating enterprise transitions to quantum-safe standards. Recognized for bridging the gap between theoretical frameworks (NIST standards) and practical, commercial implementations. Expert in designing special-purpose Hybrid Cryptography for emerging networks (IoD, FANETs) to deliver scalable, future-proof security solutions.

Core Competencies

Cybersecurity & PQC: Post-Quantum Cryptography, Hybrid Encryption, Zero Trust, NIST Standards, IoD Security.

Cloud & DevOps: OpenStack, Docker, Kubernetes, Ansible, CI/CD, AWS/Azure Security, Linux.

Network Security: Network and Critical Infrastructure Security, Cryptography, virtualization, and HPC.

Programming: Python (Security Automation), Shell Scripting, C/C++.

Professional Experience

Founder & Lead Architect

Nov 2025 – Present

Quantum Guard Bridge (QGB)

Montreal, QC

- Leading a startup focused on democratizing post-quantum security through an automated, hybrid cryptography management platform.
- Architecting a **DevSecOps-integrated platform** to enable organizations to transition from legacy encryption to NIST-approved PQC algorithms without operational disruption.
- Designing hybrid cryptographic schemes to ensure backward compatibility while securing data against future quantum threats.
- Conducting market research and technical validation to refine the MVP.

PhD Researcher (Cybersecurity & PQC)

Dec 2022 – Present

Polytechnique Montréal

Montreal, QC

- Conducting advanced research on **UAV/Drone Network Security**, focusing on the design and implementation of special-purpose cryptographic protocols.
- Integrating **Post-Quantum Cryptography (PQC)** algorithms to secure Internet of Drones (IoD) and FANETs against quantum threats.
- Mitigated security risks in IoD environments by implementing advanced **Federated Learning** and **Deep Reinforcement Learning** algorithms to enhance network resilience.
- Implemented a Next-Gen SIEM system (Splunk ES and ELK) reducing incident resolution time by **20%**.
- Developed a simulation for UAV swarm security using STM Cortex M4 boards and NS-3.

Cloud Security & SDN Engineer

July 2021 – Nov 2022

Sadad Informatics Corporation

Tehran, Iran

- Automated cloud deployment processes using **Ansible** and Python-based CI/CD tools, resulting in a **70% reduction** in deployment time.
- Deployed monitoring stacks (Zabbix, SolarWinds, ELK), achieving a 40% increase in uptime.
- Designed a secure SDN architecture featuring control/data plane separation, enhancing efficiency by 25%.

Co-Founder & CTO**Sept 2019 – July 2021***Vira Security Solutions**Tehran, Iran*

- Redesigned corporate network architecture, optimizing resource allocation which reduced infrastructure costs by **40%**.
- Spearheaded a security awareness program for 150+ employees, leading to a 40% decrease in internal security incidents.
- Hardened Linux/Windows servers and implemented physical access controls, reducing security breaches by 30%.

Network & System Administrator**Sept 2017 – Sept 2019***Research Institute for Endocrine Sciences**Tehran, Iran*

- Designed a secure high-performance infrastructure for genetic data processing, improving speed by **85%**.
- Managed 400TB+ of genomic data with high availability architectures.
- Expanded VDI using VMware Horizon, scaling user access from 5 to 50 concurrent researchers.

Network Security Engineer**June 2014 – Sept 2017***Farazpajohan**Tehran, Iran*

- Led the network security team in performing vulnerability assessments using **Nessus**, hardening 90% of critical vulnerabilities.
- Implemented ISO 27001 compliant policies across virtualized environments (VMware ESXi, Citrix).

HPC & Linux Engineer**June 2010 – May 2014***Institute for Research in Fundamental Sciences (IPM)**Tehran, Iran*

- Deployed and optimized over 30 HPC clusters using CentOS and Scientific Linux.
- Reduced computation time by **65%** via Infiniband communication and GPU integration.

Education

Doctor of Philosophy (PhD) – Computer Engineering**Expected 2026***Polytechnique Montréal**Montreal, QC***Master of Science – Computer Networks****2013***Amirkabir University of Technology**Tehran, Iran***Bachelor of Science – Software Engineering****2009***Shamsipour Technical College**Tehran, Iran***Certifications & Awards**

Certifications: Cisco (CCNP Security), LPIC-3, VMware VCP, MCITP, MCSE, IBM Data Science Professional.

Award: Winner of Cybersecurity Innovation Competition (2025) - One of three winners placed for "QuantumGuard Bridge".

Fellowship: Propolys Entrepreneurship Fellow (Deep-tech incubation program).