

Muhammad Haris Rais

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Education

- PhD in Computer Science: Specialization in Cybersecurity (in progress) at Virginia Commonwealth University, VA, USA;
- M.E. Computer Networks and Performance Evaluation , N.E.D University, 1st Position, CGPA 4.0
- B.E Electrical Engineering, N.U.S.T, EME College, 1st Position; CGPA: 3.942

First Author Publications

- [DFRWS-EU'2022] Memory Forensic Analysis of a Programmable Logic Controller in Industrial Control Systems
- [IFIP ICCIP'2022] Low-magnitude Infill-structure Manipulation Attacks on FFF-based 3D Printers
- [ADDMA,Elsevier'2021] Dynamic-thermal and Localized Filament-kinetic Attacks on Fused Filament Fabrication based 3D Printing Process
- [DFRWS'2021] JTAG-based PLC Memory Acquisition Framework for Industrial Control Systems
- [ICCPs'2021] Spatiotemporal G-code Modeling for Secure FDM-based 3D Printing
- [IEEC'2016] Evolving Internet Traffic Trend in Pakistan

Other Peer-reviewed Presentations and Posters

- Memory Forensic Analysis Methodology for Programmable Logic Controllers, AAFS, 2022
- A Forensic Readiness Model for the Fused Filament Fabrication (FFF) -Based AM Process, AAFS, 2022
- On Detecting Sabotage Attacks on 3D Printing Processes, CIMSS 2021
- Forensic Readiness Framework for 3D Printing Process: A Case Study of Ultimaker 3, DFRWS, 2020
- Security Aspects of Cloud, International IT and Telecom Show "ITCN ASIA",2013

Professional Certifications

- CCIE (R&S) – Cisco Certified Internetwork Expert # 23662
- JNCIA(JUNOS) - Juniper Networks Certified Internet Associate
- CEHV7- Certified Ethical Hacker – ECC960001
- CCIE Security (written)

Key Skills

Technical Skills

- Research based solutions for Cybersecurity problems
- IT Network solution design
- Deployment of IP MPLS Networks
- Technical Writing
- Technology operations and management
- Network performance assessment
- Technical project management
- Coding in Java and Python

Soft Skills

- Leadership and Team building
 - Ownership
 - Effective communication and presentation skills
 - Problem solving
 - Integrity and Truthfulness
 - Passion to learn
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Professional Experience

2019 To date	Graduate Research Assistant	Virginia Commonwealth University
<ul style="list-style-type: none"> ▪ Cybersecurity of Additive Manufacturing Processes – Exploring new attack vectors and detection methodologies ▪ Forensics of Material Extrusion based Additive Manufacturing ▪ Cybersecurity of Industrial Control Systems ▪ Memory Forensics of Programmable Logic Controllers – Acquisition and Analysis 		
2011-2018	Manager Advanced Technical Services	Wateen – Nationwide Telecom & Cisco Gold Partner
<ul style="list-style-type: none"> ▪ Designed and deployed Routing & Switching (R&S), and Network Security solutions across industry verticals, including Telecom, Financial Institutes, Energy, Aviation and Government setups ▪ Managed a team of highly qualified experts to offer futuristic and cost effective IP Network and Security solutions, implementation services and post-sales advanced technical support. ▪ Supervised Managed Services of large Enterprise networks ▪ Offered Network Optimization consultancy services to Enterprise and Telco customers ▪ As a trusted advisor, assisted in finalizing in IT Network roadmap for corporate customers. ▪ Hands-on experience on Cisco products including ASR & ISR routers, Nexus and Catalyst switches, ASA, and NG Firewall ▪ Designed, implemented and managed nation-wide network merger projects involving multivendor equipment ▪ Led troubleshooting of high impacting issues in critical IT Networks, such as Stock Exchanges, International Airlines etc. 		
2007-2010	Assistant Manager IP Backbone	Warid Telecom
<ul style="list-style-type: none"> ▪ Translated business requirements into a formal technical RFP. ▪ Designed and optimized Cellular network of 300+ IP nodes including Juniper, Cisco, Extreme Networks and Huawei equipment ▪ Prepared test plans for evaluation of the performance as per the KPIs ▪ Involved in end-to-end project life cycle from RFP preparation, solution evaluation, detailed design, implementation, operations supervision and support. ▪ Integrated various GSM services with the MPLS core network including GSM R4 voice, Sigtran, O&M etc ▪ Involved in QoS and RSVP-TE design ▪ Technical Negotiations with Costumers/vendors 		
2003-2006	Instructor / Directing Staff at College of Electrical and Mechanical Engineering	
<ul style="list-style-type: none"> ▪ Organized and conducted training courses for Graduate Engineers and Technicians in the domains of Communications, Controls and Applied Electronics. ▪ Organized, upgraded and managed campus communication network ▪ Conducted courses for Engineers on communication technology, control systems and Applied Electronics. ▪ Supervised students projects in communications, controls and software field 		
Honors and Awards		
<ul style="list-style-type: none"> ▪ Best student paper award at DFRWS-EU 2022 ▪ Gold medal for 1st position in Bachelor of Engineering and Master of Engineering ▪ Gold medal for the “Overall Best Performer” at the University college ▪ Gold Medal for the “Best Speaker” at the University college ▪ Numerous OUTSTANDING reports and Certificates of appreciation for being the best performer 		