

Ahmad B. Usman

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Summary

- Cybersecurity researcher focused on **remote attestation**, **secure software updates**, and trustworthy software/firmware states for embedded and distributed systems.
- Hands-on security background with industry certifications (CEH, Security+); interested in **penetration testing** and applied natural language processing and machine learning for security, as well as web application development.
- Experienced in academic and industry environments across Sweden and Italy; strong written communication and publication track record.

Core Skills

Security: Remote Attestation, Secure Updates, Security Engineering, Vulnerability Research

Programming: C, C++, Python, SQL, Java, JavaScript

Languages: English (Fluent), Arabic (Fluent), Swedish (Intermediate (GRNSVA2: Verksamhetspoäng:700))

Experience

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| Linköping University - Research Assistant (Cybersecurity) | Dec 2021 - Present
Linköping, Sweden |
| <ul style="list-style-type: none"> • Research on secure software updates and remote attestation to improve integrity and trust in software states. • Produce research prototypes, experiments, and technical documentation supporting peer-reviewed publications. • Collaborate within academia to communicate results through reports, presentations, and manuscripts. | |
| HWG s.r.l - Cyber Security Specialist | Sep 2021 - Nov 2021
Verona, Italy |
| <ul style="list-style-type: none"> • Supported ongoing security management activities and security operations for enterprise environments. • Contributed to standard implementaion and risk identification. | |
| SPRITZ - Research Assistant | Sep 2020 - Jul 2021
Padua, Italy |
| <ul style="list-style-type: none"> • Research on Industrial Control Systems (ICS) security and applied machine learning (e.g., detection/monitoring use-cases). • Assisted with experimentation and evaluation; prepared results for academic publication. | |

Education

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| Licenciate in Computer Science - Linköping University (Sweden) | Dec 2021 - Oct 2025 |
| <ul style="list-style-type: none"> • Thesis: <i>Trustworthy Software States through Attestation and Secure Updates</i> • diva2:1997850  | |
| MSc in ICT for Internet and Multimedia - University of Padua (Italy) | Oct 2019 - Jul 2021 |
| <ul style="list-style-type: none"> • Track of CyberSystems, Dept. of Information Engineering; GPA: 110/110 • Thesis link  | |
| BSc in Information Technology - University of Science and Technology (Sudan) | Oct 2013 - Sep 2017 |
| <ul style="list-style-type: none"> • Faculty of Computer Science & Information Technology; GPA: 3.78/4 | |

Certifications

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|----------------------------------------------------|----------|
| Certified Ethical Hacker (CEH) - EC-Council | Dec 2017 |
| CompTIA Security+ - CompTIA | Sep 2017 |
| CCNA Security - Cisco | Aug 2017 |
| CCNA Routing and Switching - Cisco | Sep 2015 |

Selected Publications

- Bridging remote attestation and secure software updates in embedded systems.** Feb 2026
• *Ahmad B. Usman* Zeeshan Afzal, and Mikael Asplund [Springer](#)
- On the Inconsistency of Update-Related Vulnerabilities** July 2025
• *Ahmad B. Usman* [Springer](#)
- Update at Your Own Risk: Analysis and Recommendations for Update-related Vulnerabilities** May 2025
• *Ahmad B. Usman* and Mikael Asplund [Springer](#)
- Remote Attestation with Software Updates in Embedded Systems** Oct 2024
• *Ahmad B. Usman* and Mikael Asplund [IEEE](#)
- Remote Attestation Assurance Arguments for Trusted Execution Environments** Apr 2023
• *Ahmad B. Usman*, N. Cole, Mikael Asplund, F. Boeira, C. Vestlund [ACM](#)

Teaching & Supervision

- Linköping University** - Teaching Assistant / Lab Assistant 2021 - 2026
Linköping, Sweden
- **Concurrent Programming and Operating Systems** ([TDDE68](#)) 2021-2024
 - **Computer Engineering - Bachelor Project** ([TDDD83](#)) 2022-2026
 - **Text Mining** ([732A81](#)) 2025-2026
- Linköping University** - Masters / Bachelor Supervision
- **Masters** ([diva2:1772753](#) , [diva2:1879960](#)) 2023, 2024
 - **Bachelor** ([diva2:1681942](#) , [diva2:1669983](#) , [diva2:1763650](#) , [diva2:1883545](#) , [diva2:1967210](#)) 2021-2026

Additional Information

- Driving License:** Swedish Category B Nov 2023