

Shyam Krishna Khadka, PhD (finishing soon)

Network Security Engineer | Internet Security Researcher | Enterprise Network Architect

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Professional Summary

Network & Security Engineer with 12+ years of experience designing, deploying, and securing large-scale enterprise and service provider networks, complemented by cutting-edge research in Internet security. Currently completing a Ph.D. at the University of Twente, Netherlands, specializing in BGP security, Internet measurement, and DDoS mitigation.

Technical Skills

Networking: BGP, OSPF, MPLS, routing, switching, SD-WAN, Wi-Fi 6, NGFW, CCNP training

Security: NGFW, XDR, firewalls, BGP security

Programming: Python, Java, Ruby, C/C++, JavaScript, TensorFlow

Systems: Linux, VMware, HCI, virtualization, Git, RHCE training

Research: Internet measurement, network security, data analysis, machine learning, deep learning, technical writing and presentations

Professional Experience

Nepal Telecom, Nepal — Senior Engineer

2010–2022

Progressed from Software Developer and Network/System Engineer to Senior Engineer at Nepal's largest telecommunications provider.

- Led technical evaluation and deployment of SD-WAN, HCI, EDR, Wi-Fi 6, next-generation firewalls, and enterprise networking solutions that involve vendors such as Cisco, Juniper, Huawei, Check Point, Palo Alto, VMware, and Nutanix.
- Managed enterprise routing and switching infrastructure using BGP, OSPF, and MPLS, with Linux system administration.
- Handled technical procurement, compliance testing, and network operations.
- Developed internal web applications and services using Java, ASP.NET, JavaScript, and Nginx.

CloudFactory, Nepal — Software Developer

2009–2010

- Developed web applications using Ruby on Rails and built database-driven applications.
- Worked in Agile software development teams and collaborated with international engineering teams.

Research Experience

University of Twente — Doctoral Researcher

2023–Present

- Designed Internet-scale measurement methodologies for assessing the security of BGP and Autonomous Systems.
- Designed and implemented novel methodologies to detect exposed BGP routers and characterize global DDoS scrubbing deployments.
- Published and presented research at international networking and Internet measurement venues.
- Presented research findings at international networking forums, including RIPE and IETF.
- Assisted with the Advanced Networking course across three academic sessions, focusing on data-plane programming using P4.

Education

University of Twente, The Netherlands

03/2023–Present
(Expected 2026)

PhD Candidate, Computer Science. Researching Internet-scale network security with emphasis on routing security, DDoS resilience, and resilient Internet infrastructure.

University of Crete, Greece

2016

MSc, Computer Science. Researched data imputation using deep learning. Grade: 8.33/10.

Tribhuvan University, Nepal

2015

MSc, Computer Engineering. Marks obtained: 88.47 %, Distinction

Tribhuvan University, Nepal

2009

Bachelor of Computer Engineering. Marks obtained: 81.20 %, Distinction

Tribhuvan University, Nepal

2022

Bachelor of Law (LLB).

Selected Publications

Detecting and Characterizing Exposed BGP Routers	TMA 2026
Detecting and Characterizing DDoS Scrubbing from Global BGP Routing	PAM 2026
A First Look at the Adoption of BGP-based DDoS Scrubbing Services	CNSM 2025
Assessing the Security of Internet Paths	ANRW 2024

Selected Talks & Outreach

- Presented research on BGP security and DDoS resilience at RIPE and IETF forums.
- Published research summaries through blog posts in APNIC and RIPE Labs.
- Discussed research findings on DDoS scrubbing in an industry podcast hosted by FastNetMon.

Awards & Recognition

- IRTF Diversity Grant, IETF 126, Vienna, 2026.
- One of the three best measurement blogs for 2025, APNIC.
- Erasmus Mundus Scholarship, University of Crete.
- Faculty Topper, Bachelor of Computer Engineering.
- Full Scholarship, Bachelor and MSc in Computer Engineering.

Languages

English — Professional proficiency	Nepali — Native	Dutch — Basic (A2)
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