



Universität St.Gallen

Computer Science Insights @HSG - School of Computer Science

Thursday, December 10, 2026 - 16:15, Room C-58-022, Telstrasse 2

eBPF Security: The Uneven Landscape

Gürkan Gür

Although eBPF is widely used to extend the Linux kernel, running programs in kernel space introduces critical security risks. Existing technical work often overlooks the entire security lifecycle of eBPF. This talk aims to address this gap by systematically analyzing eBPF vulnerabilities, mitigations, and architectural limits through a review of the current body of technical work and CVEs. We will map real-world exploits to specific components, arguing that current defenses target isolated attacks rather than systemic architectural risks. Finally, we will present key takeaways, outline open directions toward lifecycle-aware, composition-safe security models, and highlight understudied non-verifier components.

Dr. Gürkan Gür is a senior lecturer at the Zurich University of Applied Sciences (ZHAW), in the InIT Information Security Group in Winterthur, Switzerland. He received his B.S. degree in electrical engineering in 2001 and Ph.D. in computer engineering in 2013 from Bogazici University in Istanbul, Turkey. His research interests include Future Internet, information security, 5G and Beyond networks, and critical infrastructure protection. Currently, he is involved in Horizon Europe NETWORK (<https://network-project.eu/>) and SNSF-NSF co-funded SATUQ (<https://www.zhaw.ch/en/research/project/76264>) projects. He is a member of IEEE 3394 S2CY - Space System Cybersecurity and IEEE 1920.2 Vehicle-to-Vehicle Communications for Unmanned Aircraft Systems standardization work groups. He is a senior member of IEEE and a member of ACM.

From insight to impact.

