

Marcin Nawrocki | CV

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PhD student passionate about Internet measurements and backbone security, with strong technical skills and perseverance for successfully finding comprehensive answers to research questions that matter.

Work Experiences

- **Freie Universität Berlin** **Berlin**
PhD Student - Project X-Check *2016–present*
The overall goal of X-Check is to provide improved security by leveraging data from Internet Exchange Points. My scope of work includes the detection and mitigation of DDoS as well as the large-scale detection of known security incidents and novel, unconventional anomalies at central Internet nodes.
- **Freie Universität Berlin** **Berlin**
Student Researcher - Project SKIMS and Peeroskop *2011–2016*
Project SKIMS designs a security system for mobile devices, Peeroskop focuses on passive and active Internet measurements. Within the scope of these projects, I have deployed a mobile honeypot, which initiated a long-term analysis of attacks on honeypots with heterogeneous access types. Additionally, I have conducted security audits of mobile ad-hoc networks and represented the research group at several public events.

Education

Academic Qualifications.....

- **Master of Science – 1.2** **Berlin**
Freie Universität Berlin, Thesis: *2016*
Long-Term Honeypot Deployment and Data Analysis for Heterogeneous Network Access Types
- **Bachelor of Science – 1.8** **Berlin**
Freie Universität Berlin, Thesis: *2012*
Design and Implementation of a Framework for Analysis of Ad-hoc-Hotspot-Communication
- **High-School Diploma – 1.5** **Berlin**
Menzel Gymnasium, bilingual education in English and German *2009*

Exchange Experience.....

- **University of Toronto** **Toronto**
Scholarship by BPM EduNet, special focus on network security *01/2013 – 05/2013*

Professional Activities

Conferences and Workshops.....

- **ACM IMC 2019**
Paper presentation & Poster demo, supported by a travel grant *2019*

- **RIPE 79** 2019
RIPE RACI presentation, supported by a travel grant
- **IETF 104** 2019
Hackathon attendee and conference participant
- **NetSys 2019** 2019
Poster demo and PhD school participant
- **ACM IMC 2018** 2018
Poster demo, supported by a travel grant
- **ACM SIGCOMM 2018** 2018
Poster demo, Award: 2nd place in Student Research Competition, supported by a travel grant
- **Dagstuhl Seminar 18242** 2018
Secure Routing for the Internet, Seminar Participant
- **RIPE 76** 2018
RIPE Meeting Participant
- **Dagstuhl Seminar 17511** 2017
The Critical Internet Infrastructure Revisited, Seminar Participant
- **ACM ICN 2017** 2017
Assistant of the organizing committee
- **Riot Summit 2017** 2017
Assistant of the organizing committee
- **ACM SIGCOMM 2017** 2017
Scientific demo, supported by a travel grant
- **IETF 99** 2017
Hackathon attendee and conference participant
- **TMA 2017** 2017
Poster demo and PhD school participant, supported by a travel grant
- **NetSys 2017** 2017
Poster demo and PhD school participant, supported by a travel grant
- **Riot Summit 2016** 2016
Assistant of the organizing committee
- **IETF 96** 2016
Participant, supported by a ticket grant

Technical Program Committees.....

- **ACM IMC 2019 Shadow PC** 2019
Shadow PC Member
- **ACM IMC 2018 Shadow PC** 2018
Shadow PC Member
- **TMA 2018 Shadow PC** 2018
Shadow PC Member
- **ACM IMC 2017 Shadow PC** 2017
Shadow PC Member

Extra-Curricular Activities

Ongoing.....

- **Trendsport Akademie Berlin:** I am the co-founder and member of the executive board of a start-up, which supports emerging sport clubs in creating business networks, upscale its current structure and establish a profound market position.
- **Tricking.Berlin:** I am the head of department at a charitable sports club (www.Tricking.Berlin), that has been approved and funded by the German Sports Association. I am responsible for the overall management decisions, leasing of facilities, acquisition of grant money as well as the approval of new training concepts.

Completed.....

- **Dr.Me:** Dr.Me offers a service that enables end-users to access and apply medical expertise easily. As the technical lead of this medical start-up, I have developed an early prototype and designed its back-end.
- **TTI Success Insights Test:** The basic TTI Leadership-Check classifies me as a coordinator.
- **Myers-Briggs Type Indicator:** The Myers-Briggs classifies me as an INTJ-A type (→ Architect).

Languages and Technical Skills

- **Languages:** German & Polish (native proficiency), English (professional proficiency), French (elementary)
- **Programming Languages:** Proficient in Python (Numpy, Pandas) and Bash; basic abilities with R, SQL, Haskell, Java, TeX, C++, HTML/JS/CSS
- **Industry Software Skills:** Data science stack, Linux server administration & virtualization, DPI-tools

Teaching and Student Supervision

Courses.....

- **Internet Measurements and Performance (SS19):** Teaching assistant, tutorials and assignment review
- **Telematics (WS1617, WS1718, WS1819, WS1920):** Teaching assistant, tutorials and assignment review
- **Seminar Internet Communications (SS17, WS1718, SS18, SS19):** Term paper supervisor, 10 papers assisted and reviewed
- **Software Project Internet Technologies (SS17)** Group supervisor, 1 group

BSc/MSc Theses.....

- DDoS Mitigation with BGP Flowspec in Comparison to Destination-Based Remotely Triggered Blackholing
Nico Hinze, MSc Thesis, August 2018, co-supervisor

Publications

1. **Down the Black Hole: Dismantling Operational Practices of BGP Blackholing at IXPs** M. Nawrocki, J. Blending, C. Dietzel, T. C. Schmidt, M. Wählisch. ACM Internet Measurements Conference, 2019. [link]
2. **Uncovering Vulnerable Industrial Control Systems from the Internet Core.** M. Nawrocki, T. C.

Schmidt, M. Wählisch. Pre-Print, arXiv:1901.04411, 2019. [link]

3. **On the Potential of BGP Flowspec for DDoS Mitigation at Two Sources: ISP and IXP.** N. Hinze, M. Nawrocki, M. Jonker, A. Dainotti, T. C. Schmidt, M. Wählisch. Posters and Demos at ACM SIGCOMM 2018. [link]
4. **Incident Forensics in Distributed High-Speed Networks.** M. Rouhi, Q. Scheitle, O. Gasser, C. Wahl, R. Hiesgen, T. Schmidt, M. Nawrocki, M. Wählisch. Poster Session, PAM 2018. [link]
5. **Towards Distributed Threat Intelligence in Real-Time.** Philipp Meyer, Raphael Hiesgen, Thomas C. Schmidt, Marcin Nawrocki, and Matthias Wählisch. Posters and Demos at ACM SIGCOMM 2017. [link]
6. **A Survey on Honeypot Software and Data Analysis.** Marcin Nawrocki, Matthias Wählisch, Thomas C. Schmidt, Christian Keil, and Jochen Schönfelder. Pre-Print, arXiv:1608.06249, 2016. [link]