

DENNIS ROELLKE - IT SECURITY

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github.com/dns43

EDUCATION

Columbia University

PhD in Computer Science

09/2018 – 09/2023

New York, USA

- Concentration on ML Property Verification, and the Application of ML in Program Analysis

University of Bochum

Master of Science in IT Security/ Information Technology

10/2015 – 7/2018

Bochum, Germany

- Concentration on cryptography, security protocols, binary analysis

University of Bochum

Bachelor of Science in IT Security/ Information Technology

10/2012 – 10/2015

Bochum, Germany

- Concentration on hacking techniques such as XSS, SQLi and Buffer Overflows

PUBLICATIONS

Siemens Research

Research Intern (Under Submission)

02/2018 – 07/2018

New York, USA

- Developed an open-source concolic execution engine for dynamic vulnerability analysis of embedded firmware

Drexel University

Research Visitor - NDSS2018 (Poster)

01/2017 – 05/2017

Philadelphia, USA

- Attributed a programmers nationality based on his coding style

University of Bochum

Bachelor Thesis (arXiv)

07/2015 – 10/2015

Bochum, Germany

- Investigated numerous approaches to obtain a smart device's cryptographic key

Incl.: Radio Eavesdropping, Cross-Compilation, Firmware Disassembly, Dictionary Brute Force

PROFESSIONAL EXPERIENCE

Freelance Consulting Projects:

Germany

Deutsche Bank: *Supporting junior consultants*

05/2016 – 07/2017

Remote

- Solved nested data dependencies in an big data application

Schindler Elevators: *Automating an SAP Workflow*

11/2016 – 01/2017

Berlin

- Automated an SAP process, optimized it from minutes to seconds

Dekra EXAM: *Network Analysis revealing Database Performance Issues*

11/2016 – 01/2017

Essen

- Analyzed a running network, enabling five times faster database access

Bertelsmann Group: *Installing an IDS and a User Role Integrity Concept*

11/2015– 06/2016

Dusseldorf

- Implemented an Intrusion Detection System; pentested it for verification
- Designed and implemented a user role integrity concept meeting internal security audits

EXTRACURRICULAR

Capture The Flag

- Leading Columbia University's Capture The Flag Team

Teaching Assistant

- Privacy Preserving Technologies (Prof. Jeannette Wing) and Security I (Prof. Suman Jana)

TECHNICAL SKILLS

- **Machine Learning:** Tensorflow, PyTorch, Java Weka, C++ implementation of Neural Networks
- **Software Development:** Java, Java Crypto Extension, VBA, C/C++, Python, SQL
- **Reverse Engineering:** x86, ARM, LLVM, Java Intermediate Language, IDA Pro, GDB-Peda
- **Pentesting:** OWASP Testing Guide v4, Burp Suite, Wireshark, XSS, SQLi
- **Intrusion Detection:** Suricata/ Snort, Security Onion; Network Monitoring Icinga/ Nagios