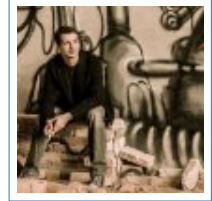


Andreas Happe

Curriculum Vitae

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Employment History

- 2015–Present **Engineer**, AUSTRIAN INSTITUTE OF TECHNOLOGY.
Design, Implementation and Maintenance of privacy-preserving multi-cloud storage, user authentication and data-sharing systems.
Projects: Credential (Horizon 2020), DRBD4Cloud (Eurostars), Prismacloud (Horizon 2020).
- 2012–Present **Senior Security Engineer**, CORETEC GMBH, VIENNA.
Security-Assessments and Penetration-Tests
- 2009–Present **Ruby on Rails Freelancer**.
Design, Development and Maintenance of Ruby on Rails-based web applications.
- 2012–2015 **Software Engineering Contractor**, AUSTRIAN INSTITUTE OF TECHNOLOGY.
Design, Implementation and Maintenance of secure multi-cloud storage systems
- 2006–2012 **Software Engineering Contractor**, ARC SEIBERSDORF RESEARCH GMBH
AUSTRIAN INSTITUTE OF TECHNOLOGY.
Design, Development and Maintenance of a Quantum Key-Distribution system.
- 2007–2009 **CTO**, BLACKWHALE GMBH.
Startup working on web-based work-flow solutions.
- 2001–2007 **System Administrator**, INFOTECH GMBH.
Linux and Microsoft Windows systems.

Technical Skills

Security Assessment, Design and Implementation of IT-Security-Systems.
Engineering Design, Execution and Documentation of Pen-Tests.
Focus upon manual Application-Level Web Penetration-Tests.
Automated testing with BURP, CAPYBARA, ACUNETIX, SQLMAP.PY, etc.

Software Procedural, Object-Oriented and Functional Programming Paradigms.
Development Expert level in RUBY ON RAILS, PYTHON, C, JAVA, SCALA, AKKA.IO.
Unit Testing with RSPEC, MINITEST, JUNIT, CTEST.
Acceptance Testing with CAPYBARA and CUCUMBER.

References

Due to my work's sensitive nature please contact the following references for further information:

- Pen-Tests Manfred Kirisits, CEO CoreTEC IT Security GmbH
mk@coretec.at, +43-676-841-786-310
- Ruby on Rails Peter Greiner, Executive Board Burgstaller-Steiner Immobilien GmbH
peter.greiner@burgstaller-steiner.at, +43-650-473-4637
- Java, Clouds Thomas Lorünser, Senior Engineer and Project Coordinator for the European Union
H2020 "Credential" and "PrismaCloud" Research Projects, Austrian Institute of
Technology
thomas.loruenser@ait.ac.at
- C, Linux, Distributed Systems Thomas Themel, Colleague during European Union's FP7 SECOQC project, now
Google Inc.
thomas@themel.com

Selection of Noteworthy Projects

- since 2016 Member of AUSTRIAN STANDARDS Group A77.00 on "Secure Programming"
- since 2015 PRISMACLOUD
Design, development and maintenance of the PrismaCloud privacy-preserving multi-cloud storage prototype. One of seven projects accepted for the European Union's Horizon 2020 Research Programme.
- since 2015 CREDENTIAL
Development of Trust Solutions for untrusted multi-cloud architectures. Another one of the seven projects accepted for the European Union's Horizon 2020 Research Programme.
- since 2013 MULTIPLE HIGH-PROFILE WEB-APPLICATION BREACHES
Discovered security vulnerabilities in multiple high-profile web applications (Insurance and Banking industry, Governmental sector). Involved in fixing and preventing future data leaks.
- 2013–2015 "IMMOSOFT"
Lead-Programmer in a Real-Estate Broker software project. An existing c#/.net application was deemed unmaintainable and its functionality is migrated to an Ruby on Rails web application. Special focus lies on maintainability and automated testing to prevent a similar fate.
- 2012–2015 ARCHISTAR
Design and Development of a Multi-Cloud Storage System utilizing BFT (Byzantine Fault Tolerance) and Secret-Sharing techniques.
- 2006–2012 SECOQC
Implementation of the first inter-company quantum key distribution network. I was deeply involved in design and implementation of the networking components (which were written using Linux, Python, C). After the presentation of the prototype during the SECOQC-Conference of 2009 responsible for maintenance and further feature-work.

Languages

German **Native language**
English **Full professional proficiency**

Formal Education

since 2014 **ongoing PhD studies**, *Software Engineering & Internet Computing*, TU Wien.
2006–2009 **DI/Master of Science**, *Software Engineering & Internet Computing*, TU Wien.
2002–2006 **Bakk. techn.**, *Software & Information Engineering*, TU Wien.
1996–2001 **Matura**, *EDV und Organisation*, HTBLVA Villach.

Masters Thesis

Title *Agile Provenance*
Supervisors S. Dustdar, L. Juszczuk, H.-L. Truong
Description Automated transparent provenance gathering and analysis within Ruby on Rails.

Certifications

since 2015 Offensive Security Certified Professional

Standardization Work

since 2017 OWASP MSTG – “Mobile Security Testing Guide”
Top Contributor
since 2016 ÖNorm A77.00 – “Sichere Webapplikationen”
Austrian Standard on Development and Maintenance of Secure Web Applications

Publications – Unikernel

- 2017 Unikernels for Cloud Architectures: How Single Responsibility can Reduce Complexity, Thus Improving Enterprise Cloud Security
Andreas Happe, Bob Duncan, Alfred Bratterud
Complexis 2017 in Porto, Portugal
- 2016 Enterprise IoT Security and Scalability: How Unikernels can Improve the Status Quo
Bob Duncan, Andreas Happe, Alfred Bratterud
IEEE/ACM 9th International Conference on Utility and Cloud Computing
2016 in Shanghai, China
- 2016 Enhancing Cloud Security and Privacy: Time for a New Approach?
Bob Duncan, Alfred Bratterud, Andreas Happe
INTECH 2016 in Dublin, Ireland

Publications — Cloud Storage

- 2017 The Archistar Secret-Sharing Backup Proxy
Andreas Happe, Florian Wohner, Thomas Loruenser
SECPID/ARES 2017 in Calabria, Italy

- 2016 Exchanging Database Writes with modern Crypto
Andreas Happe, Thomas Loruenser
IARIA Cyber 2016 in Venice, Italy
- 2016 Malicious Clients in Distributed Secret Sharing Based Storage Networks
Andreas Happe, Stephan Krenn, Thomas Loruenser
Presented at Secure Protocol Workshop 2016 in Brno, Czech Republic
- 2015 ARCHISTAR: Towards Secure and Robust Cloud Based Data Sharing
Thomas Loruenser, Andreas Happe, Daniel Slamanig
Presented at IEEE CloudCon 2015 in Vancouver, Canada

Publications — Quantum Key Distribution

- 2013 New release of an open source QKD software: design and implementation of new algorithms, modularization and integration with IPsec
Andreas Happe, Oliver Maurhart, Christoph Pacher, Thomas Loruenser, Cristina Tamas, Andreas Poppe, Momtchil Peev et al.
- 2012 Timing synchronization with photon pairs for quantum communications
Andreas Happe, Thomas Loruenser, Andreas Poppe, Momtchil Peev, Florian Hipp, Damian Melniczuk, Pattama Cummon, Pituk Panthong, Paramin Sangwongngam et al.
- 2012 Quantum Key Distribution Software maintained by AIT
Andreas Happe, Oliver Maurhart, Christoph Pacher, Thomas Loruenser, Gottfried Lechner, Cristina Tamas, Andreas Poppe, Momtchil Peev et al.
- 2012 QKD software architecture and system integration with classical communication infrastructure
Oliver Maurhart, Christoph Pacher, Andreas Happe, Thomas Loruenser, Cristina Tamas, Andreas Poppe, Momtchil Peev
- 2009 The SECOQC quantum key distribution network in Vienna
Andreas Happe, Momtchil Peev, Thomas Loruenser, Thomas Themel, Christoph Pacher, Oliver Maurhart, Andreas Poppe, Anton Zeilinger, Cristina Tamas, Edwin Querasser et al.