

Goran Piskachev

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EDUCATION

01/02/2016– expected 2021

PhD Candidate (Computer Science)

Paderborn University, Paderborn (Germany)

Mentor: Prof. Eric Bodden

PhD topic: Detection of security vulnerabilities via static code analysis.

- automatic detection of security-relevant entities using machine-learning
- generation of configurations for taint analyses from user-defined specifications

01/10/2012–30/06/2015

Master of Computer Science

Paderborn University, Paderborn (Germany)

01/09/2008–20/06/2012

Graduated Engineer in Electrical Engineering and Information Technologies - Informatics and Computer Engineering

Ss. Cyril and Methodius University, Skopje (Macedonia)

01/09/2006–10/06/2008

Bilingual Diploma - International Baccalaureate

Josip Broz Tito High School, Skopje (Macedonia)

WORK EXPERIENCE

01/09/2015–today

Research Associate

Fraunhofer IEM, Paderborn (Germany)

I work in the secure software engineering group.

- SecuCheck (Project Lead): Developing an Eclipse-based taint analysis tool for security vulnerabilities (<https://secucheck.github.io/>)
- AppSecure.NRW: Developing tools and trainings for developers to improve the security processes (<https://appsecure.nrw/>)
- Project FlowDroid: I improved the precision of the taint analysis tool FlowDroid by making it aware of the Android lifecycle. The tool can now pass five more tests from the DroidBench benchmark.
- Project with industry partner GEA: I implemented a microservice architecture (Docker + python + R) for a condition-monitoring dashboard.

01/01/2015–31/07/2015

Student Research Assistant

Fraunhofer IPT, Paderborn (Germany)

I worked with MechatronicUML, an approach for design of mechatronic systems including platform independent modeling, model checking, platform specific modeling, and code generation.

01/02/2013–31/12/2014

Student Research Assistant

Paderborn University, Paderborn (Germany)

I maintained the tool Archimatrix, a model-driven anti-pattern detection tool.

02/07/2012–24/08/2012

Student Research Assistant (Internship)

Faculty of Natural Sciences, Imperial College, London, (United Kingdom)

I developed SBMLschematic - a tool for effective visualization of biological networks (SBML). I accomplished:

- vitalizations with no edge-crossings by converting the input graph to planar and computing visualization with orthogonal algorithm

- middle size networks (few hundred nodes) computed in few minutes and large size networks (few thousands nodes) compute in up to 15 minutes.

01/02/2012–31/05/2012 **Student Teaching Assistant**

Faculty of Computer Science and Engineering (UKIM), Skopje (Macedonia)

I worked as a lab demonstrator for the lectures: Systems Reliability and Operating Systems.

22/08/2011–07/10/2011 **Software Developer (Internship)**

Koios Savetovanje, Zagreb (Croatia)

Main tasks: (1) GUI testing of a bank application for interest calculations (Microsoft WPF), (2) creation of ASP.NET pages that read information from database, (3) Google translate service integration in the existing application.

27/06/2011–19/08/2011 **Software Developer (Internship)**

Alvila Systems, Prague (Czech Republic)

I worked on Skills framework (Eclipse EMF-based) for automatic generation of GUI. Main tasks: (1) usability and functionality testing, and (2) preparation of tutorials and case studies.

PERSONAL SKILLS

Languages

English - advanced (C1), Macedonian - native (C2), German - intermediate (B2)

Job-related skills

Programming skills: Java (proficient), C# (prior experience), Python (intermediate), C/C++ (intermediate), JavaScript (basic), R (basic), Prolog (basic), SQL (prior experience), UML (proficient), HTML/XML/JSON (proficient)
Frameworks: Java J2EE (intermediate), REST API (intermediate), Docker (intermediate)

ADDITIONAL INFORMATION

Publications

- SwanAssist: Semi-Automated Detection of Code-Specific, Security-Relevant Methods, Piskachev Goran, Nguyen Quang Do Lisa, Johnson Oshando, and Bodden Eric, Demonstration Track at Automated Software Engineering (ASE), San Diego USA, November 2019
- AuthCheck: Program-state Analysis for Access-control Vulnerabilities, Piskachev Goran, Petrasch Tobias, Spaeth Johannes, and Bodden Eric, Workshop on Tools for Automatic Program Analysis (TAPAS), Porto Portugal, October 2019
- Integration of the Static Analysis Results Interchange Format in CogniCrypt (Technical Report), Sriteja Kummita, Goran Piskachev, Heinz Nixdorf Institute, Paderborn Germany, June 2019
- Codebase-Adaptive Detection of Security-Relevant Methods, Piskachev Goran, Nguyen Lisa, Bodden Eric, International Symposium on Software Testing and Analysis (ISSTA) 2019, Beijing China, July 2019
- Transparent Static Analysis for the Detection of Security Vulnerabilities, Piskachev Goran, ISSTA/ECOOP 2018 Doctoral Symposium, Amsterdam The Netherlands, July 2018

Presentations

- *How to configure static analyses with machine learning?*, Goran Piskachev, Heise DevSec, 24-26. Sep 2019, Heidelberg, Germany (upcoming)
- *Static Spotter for Scalability Anti-Pattern Detection*, Goran Piskachev, Jinying Yu, Symposium on Software Performance, 26-28 Nov 2014, Stuttgart, Germany

Scholarships

- EUROWEB (Erasmus Mundus Action 2) Scholarship for Master Degree (Sep 2012 - Feb 2014)
- IT Scholarship by Macedonian Ministry of Education (Sep 2009 - Jun 2012)

Service

- Co-chair of the European Conference for Object-Oriented Programming (ECOOP) Doctoral Symposium, London, UK, July 2019
- Artifact Evaluation Committee at International Symposium for Software Testing and Analysis (ISSTA), in 2017 and 2018

Paderborn, 20 August 2019

