

PREDRAG FILIPOVIKJ | RESUME

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Current Position: Method Engineer, Scania CV AB

Interests and Expertise: Software Engineering, Formal Verification, Model checking, SAT/SMT solving, Software Testing, Safety-critical Software Engineering

Date of birth: 1989-01-16.

Citizenship: Sweden and N. Macedonia (dual citizenship).

Stockholm, Sweden

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Summary

Software verification expert and with 7+ years of collaborative experience with the automotive domain. Areas of expertise: software engineering, automated reasoning and formal verification of safety-critical systems, software testing. I am very passionate about both the art and the science of building complex, correct and robust software systems. Broad areas of interest (to mention a few): systems design and architecture, programming languages and compilers, requirements engineering, model-based development. ISTQB certified Test Analyst.

Employments and Working Experience

Method Engineer - Scania Group, Sweden

Jan. 2021 - present

- A method engineer for the complete vehicle integration testing team. Working on complete system integration testing, and test methods development for complete vehicle integration testing.

PostDoctoral Researcher - Kungliga Tekniska Högskolan (KTH), Sweden

Aug. 2019 - Dec. 2020

- A senior researcher and work package responsible in the AVERT VINNOVA project. (partners: KTH and Scania AB CV)

Ph.D. Student and Researcher - Mälardalen University (MDU), Sweden

2013 - 2019

- Doctoral student in formal verification of automotive embedded systems. (partners: MDU, Scania AB CV, and Volvo Group Trucks Technology)

Full Stack Software Developer - Nextsense, Ltd., Skopje, N. Macedonia

2012 - 2013

- Initially part of a team of developers that were responsible for development, maintenance and deployment of proprietary content management system (CMS) with integrated e-commerce. Later, became the leader of the team. Notable clients: T-Mobile N. Macedonia, T-Mobile Montenegro, Alkaloid, etc.

Education

Ph.D. (Teknologie Doktor) - MDU, Västerås, Sweden

2014 - 2019

- Doctoral Thesis: [Automated Approaches for Formal Verification of Embedded Systems Artifacts](#).
- Advisors: Assoc. Prof. Cristina Secoleanu and Dr. Guillermo Rodriguez-Navas.
- Faculty opponent: Prof. Jim Woodcock, University of York, UK.

Licentiate (Lic. i Teknologie) - MDU, Västerås, Sweden

2014 - 2017

- Licentiate Thesis: [Pattern-based Specification and Formal Analysis of Embedded Systems Requirements and Behavioral Models](#)
- Advisors: Assoc. Prof. Cristina Secoleanu and Dr. Guillermo Rodriguez-Navas.
- Faculty opponent: Prof. Stefania Gnesi, ISTI-CNR, Italy.

MSc. in Software Engineering, GPA: 5.00 of 5 - MDU, Västerås, Sweden

2012 - 2013

- One year master program in software engineering at Mälardalen University.
- Thesis: [Connecting a Design Framework for SOSs with UPPAAL model-checker](#). Supervisor: Dr. Aida Cau-sevic, examiner: Assoc. Prof. Cristina Secoleanu.

MSc. in Computer Networks and E-technologies, GPA: 9.98 of 10 - Ss. Cyril
and Methodius University, Skopje, N. Macedonia

2011 - 2014

· A master program focusing on network analysis methods and internet technologies in general. Thesis written and published in Macedonian language (available upon request).

Technical Skills

Programming Languages	C, C++, C#, Java, JavaScript, Python, Rust, SQL
Modeling	Temporal Logic, Simulink, UML, SysML, Timed/Hybrid Automata
Tools	UPPAAL, Z3, CANalyzer

Certifications

ISTQB Certified Tester Advanced Level Test Analyst (CTAL) 2022

ISTQB Certified Tester Foundation Level (CTFL) 2021

Publications

I have published more than ten peer-reviewed publications, which have been included in the proceedings of highly ranked international conferences and journals. [Complete list of publications.](#)

Honors and Awards

Ericsson Research Grant - Ericsson Research Foundation 2017

· The research grant was awarded for funding my research visit to the Software Modeling and Verification Group (MOVES), RWTH Aachen University, headed by Prof. Dr. Ir. Dr. h. c. Joost-Pieter Katoen.

Best Research Paper Award - ACM SIGAPP 32nd ACM SIGAPP Symposium On Applied Computing (SAC2017) 2016

· Paper title: *"SMT-based Consistency Analysis of Industrial Systems Requirements"*

Best Student Presentation and Research Proposal - 43rd International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM 2017) 2016

· Paper title: *"Increasing Embedded Systems' Quality through Automated Specification and Analysis of Requirements and Behavioral Models"*

Languages

English	Swedish	Macedonian
Full professional proficiency	Intermediate	Native

Volunteering and Community Service

Local Arrangements Team Coordinator - IEEE International Conference on Software Testing, Verification and Validation (ICST) 2018

· Managed a group of ten volunteers responsible for handling different supportive services such as technology, registration and information desk, cocktail and dinner event support, etc.

Local Arrangements Team Member - IEEE Computer Society Signature Conference on Computers, Software and Applications (COMPSAC) and IEEE/ACM Automated Software Engineering (ASE) 2014

· Part of a group of volunteers responsible for handling different supportive services for the conference.