

# PREDRAG FILIPOVIKJ | RESUME

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**Current Position:** Product Owner and Tech Lead, Scania CV AB  
**Interests and Expertise:** Software Engineering, Automated Reasoning  
Formal Verification, Software Testing, Safety-critical Systems Engineering  
**Date of birth:** 1989-01-16.  
**Citizenship:** Sweden and North Macedonia (dual citizenship).

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## Summary

Computer scientist and software engineer/technology lead. Areas of expertise: software engineering, automated reasoning, formal verification of safety-critical systems, software testing. I am very passionate about both the engineering 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

**Product Owner and Tech Lead** - Scania Group, Sweden

Feb. 2023 - current

- Lead and drive the development of tools based on automated reasoning technology for product data management.

**Method Engineer** - Scania Group, Sweden

Jan. 2021 - Feb. 2023

- Responsible for improving the existing, and introducing new test methods for improving the test efficiency. Other significant contributions: test strategy implementation, test tools implementation and assessment, project risk assessment, etc.

**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). Industrial PhD student @ Scania CV AB.

**Full Stack Software Developer** - Nextsense, Ltd., Skopje, North Macedonia

2012 - 2013

- Initially part of a team of developers that were responsible for development, maintenance and deployment of proprietary content management system. Subsequently promoted to team leader.

## 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 Seceleanu 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 Seceleanu and Dr. Guillermo Rodriguez-Navas.  
Faculty opponent: Prof. Stefania Gnesi, ISTI-CNR, Italy.

· 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 Seceleanu.

**MSc. in Computer Networks and E-technologies, GPA: 9.98 of 10** - Ss. Cyril  
and Methodius University, Skopje, North 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 32<sup>nd</sup> ACM SIGAPP Symposium On Applied Computing (SAC2017)

2016

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

**Best Student Presentation and Research Proposal** - 43<sup>rd</sup> 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

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