Predrag Filipovikj | Circulum Vitae

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Current Position: Test Method Engineer, Scania CV AB
Interests and Expertise: Automated Reasoning, Safety-critical Software Engineering
Formal Verification (Model checking, SAT/SMT solving), Software Testing
Date of birth: 1989-01-16.
Citizenship: Swedish and N. Macedonia (dual citizenship).

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Summary

Researcher in the area of formal verification for safety-critical software with 5+ years of collaborative experience with the automotive domain. My main expertise is automated reasoning and formal verification of safety-critical systems, however I have also interest in the following topics: systems design and architecture, requirements engineering, model-based development. Passionate about designing, developing, and quality assurance of software.

Employments and Working Experience

Test Method Engineer - Scania Group   Jan. 2021 - present

· Working on improving the existing and introducing new testing methods for HIL software verification.
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PostDoctoral Researcher - Kungliga Tekniska Högskolan (KTH), Stockholm,   Aug. 2019 - Dec. 2020
Sweden

· A senior researcher and work package responsible in the AVERT project, which is a collaboration between KTH and Scania AB CV. KTH profile page: https://www.kth.se/profile/fpredrag.
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Ph.D. Student and Researcher - Mälardalen University (MDH), Västerås, Swe-   2013 - 2019
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· Doctoral student in formal verification of automotive embedded systems. The research was conducted in close collaboration with Scania AB CV and Volvo Group Trucks Technology.
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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 Macedonia, T-Mobile Montenegro, Alkaloid, etc.
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Education

Ph.D. (Teknologie Doktor) - Mälardalen University (MDH), 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) - Mälardalen University (MDH), Västerås, Swe-   2014 - 2017
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· 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.

MSc. in Software Engineering, GPA: 5.00 of 5 - Mälardalen University (MDH),   2012 - 2013
Västerås, Sweden

· One year master program in software engineering at Mälardalen University.
Thesis: Connecting a Design Framework for SOSs with UPPAAL model-checker. Supervisor: Dr. Aida Causevic, examiner: Assoc. Prof. Cristina Seceleanu.

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).
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Technical Skills

Programming Languages	C#, Python, Java, JavaScript, SQL, C, C++
Modeling Languages and Frameworks	Simulink, UML, Timed Automata (Uppaal), .NET, JUnit
Tools and IDEs	MS Visual Studio, Eclipse, MS SQL Server, Uppaal, Z3

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

· The award was given for our paper: *"SMT-based Consistency Analysis of Industrial Systems Requirements"*
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Best Student Presentation and Research Proposal - 43nd International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM 2017) · 2016

· The award was given for the presentation of the following research proposal: *"Increasing Embedded Systems' Quality through Automated Specification and Analysis of Requirements and Behavioral Models"*
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Erasmus Mundus Scholarship - European Commission · 2012

· A full one-year scholarship. Scholarship used for attending Mälardalen University.
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Languages

English	Macedonian	Swedish
Full professional proficiency	Native	Intermediate

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.
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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.
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