NataStulova

contact

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links

web:// **stulova.me**
LinkedIn:// **nata-stulova**

education

PhD in Software, Systems and Computing cum laude
2014−2018
Technical University of Madrid (UPM)

MSc in Artificial Intelligence
2012−2013
Technical University of Madrid (UPM)

BSc in Systems Analysis
2008−2012
National Technical University of Ukraine "Kyiv Polytechnic Institute" (NTUU "KPI")

developement

Java, C++, Prolog
♥ bash, git
GitLab, Phabricator
Trello, Notion
LaTeX
WordPress

languages

native
Ukrainian

proficient
English
Spanish

intermediate
German

beginner
French
Hebrew

summary

I am a research software engineer developing tools that keep software and its specifications aligned. I am working with: requirement documents • source code comments • formal specifications.

experience

Senior Researcher | University of Bern | 2020-2021   remote / Bern, Switzerland
requirements engineering > worked on tool support for the RE tasks in agile software development:
- managed a team of four in a project integrating low-code requirements specification functionality directly to IDEs, enabling interactive RE and improving stakeholder collaboration
- co-authored several publications:
    - *Interactive Behavior-driven Development: a Low-code Perspective* (LowCode'21)
    - *First-class Artifacts as Building Blocks for Live in-IDE Documentation* (SANER'22)

documentation analysis> worked on source comments quality analysis and inconsistency detection:
- established a project collaboration between four research institutions
- worked with 4 different distributed R&D teams (3-6 people) as team leader, manager, and engineer
- co-authored several publications:
    - *A Decade of Code Comment Quality Assessment: A Systematic Literature Review* (under review)
    - *Do Comments follow Commenting Conventions? A Case Study in Java and Python* (SCAM'21)
    - *RepliComment: Identifying Clones in Code Comments* (JSS volume 182)

teaching > at BSc and MSc levels, in person and fully remote:
- developed from zero a series of practical algorithms and data structures lectures within the Software Skills Lab course (lecture slides and videos, practical assignments, exams)
- co-supervised several MSc and BSc theses
- gave lectures on programming languages, software verification, and UI design

Scientist | Swiss Federal Institute of Technology in Lausanne (EPFL) | 2019-2020   Lausanne, Switzerland
code and documentation analysis> worked on formal languages-based techniques for source code automatic documentation and summarization, exploring the potential of approaches based on natural language processing (NLP) to software documentation analysis:
- established a project collaboration between three research institutions
- co-authored the initial publication of this research line:
    - *Towards Detecting Inconsistent Comments in Java Source Code Automatically* (SCAM'20)

Research Assistant, Engineering | IMDEA Software Institute | 2014-2018   Madrid, Spain
static and dynamic code analysis> worked on program specification languages design and on tools for specification-based software verification - from enriching the existing formal program specification language, to instrumenting the source code to check the specifications at run time, to reducing the run-time overhead of these checks:
- developed experimental extensions for the testing and verification frameworks of the Ciao programming language
- co-organized and ran the 15th International Colloquium on Implementation of Constraint and LOgic Programming Systems (CICLOPS'17)
- co-authored several publications:
    - *Static Performance Guarantees for Programs with Run-time Checks* (PPDP'18)
    - *Exploiting Term Hiding to Reduce Run-time Checking Overhead* (PADL'18)
    - *Some Trade-offs in Reducing the Overhead of Assertion Run-time Checks via Static Analysis* (SCP volume 155)
    - *Practical Run-time Checking via Unobtrusive Property Caching* (ICLP'15)
    - *Assertion-based Debugging of Higher-Order (C)LP Programs* (PPDP'14)

other qualifications

Development Volunteer, Business analyst, Project manager | Ksi Prostir | 2020-2021   remote/ Dnipro, Ukraine
digital transformation > developing a website for a Dnipro-based cultural space KsiProstir. I have worked on the initial requirements analysis, after which I had collaborated in the no-code web development and maintenance.