Dr. Andrea Rosà

Publication List

Updated: 17.04.2023

All listed papers and articles are peer-reviewed (original publications).

Articles in Journals and Newsletters

[J10] Eduardo Rosales, Matteo Basso, Andrea Rosà, Walter Binder. *Large-scale Characterization of Java Streams*. In **Software: Practice and Experience**, in press, pp. 29, April 2023.

[J9] Matteo Basso, Aleksandar Prokopec, Andrea Rosà, Walter Binder. *Optimization-Aware Compiler-Level Event Profiling*. In **ACM Transactions on Programming Languages and Systems (TOPLAS)**, in press, pp. 50, April 2023. To be presented at the 2023 ACM SIGPLAN conference on Systems, Programming, Languages, and Applications: Software for Humanity (SPLASH 2023).

[J8] Eduardo Rosales, Matteo Basso, Andrea Rosà, Walter Binder. *Profiling and Optimizing Java Streams*. In **The Art, Science, and Engineering of Programming, 7(3):1:39**, Mar. 2023. Artifact evaluated.

[J7] Andrea Rosà, Eduardo Rosales, Walter Binder. *Analysis and Optimization of Task Granularity on the Java Virtual Machine*. In **ACM Transactions on Programming Languages and Systems (TOPLAS) 41(3): 19:1-19:47**, July 2019.

[J6] Andrea Rosà, Walter Binder. *Optimizing Type-specific Instrumentation on the JVM with Reflective Supertype Information*. In **Journal of Visual Languages & Computing 49:29–45**, Dec. 2018.

[J5] Andrea Rosà, Eduardo Rosales, Walter Binder. *Accurate Reification of Complete Supertype Information for Dynamic Analysis on the JVM*. In **ACM SIGPLAN Notices, 52(12):104–116**, Dec. 2017. Presented at the 16th International Conference on Generative Programming: Concepts & Experience (GPCE 2017).

[J4] Andrea Rosà, Lydia Y. Chen, Walter Binder. *Failure Analysis and Prediction for Big-Data Systems*. In **IEEE Transactions on Services Computing, 10(6): 984-998**, Nov-Dec 2017.

[J3] Andrea Rosà, Lydia Y. Chen, Walter Binder. *Actor Profiling in Virtual Execution Environments*. In **ACM SIGPLAN Notices, 52(3):36-46**, Mar. 2017. Presented at the 15th International Conference on Generative Programming: Concepts & Experience (GPCE 2016).

[J2] Andrea Rosà, Lydia Y. Chen, Robert Birke, Walter Binder. *Demystifying Casualties of Evictions in Big Data Priority Scheduling*. In **SIGMETRICS Perform. Eval. Rev., 42(4):12-21**, Mar. 2015.

[J1] Derya Çavdar, Andrea Rosà, Lydia Y. Chen, Walter Binder, Fatih Alagöz. *Quantifying the Brown Side of Priority Schedulers: Lessons from Big Clusters*. In **SIGMETRICS Perform. Eval. Rev., 42(3):76-81**, Dec. 2014. Presented at Greenmetrics 2014.

Papers in Conference Proceedings

[C40] Matteo Basso, Andrea Rosà, Luca Omini, Walter Binder. *Java Vector API: Benchmarking and Performance Analysis*. In **Proceedings of the 32nd ACM/SIGPLAN International Conference on Compiler Construction (CC)**, 2023, pp 1-12. Artifact evaluated.

[C39] Filippo Schiavio, Andrea Rosà, Walter Binder. *SQL to Stream with S2S: An Automatic Benchmark Generator for the Java Stream API*. In **Proceedings of the 21nd International Conference on Generative Programming: Concepts & Experience (GPCE)**, 2022, pp. 179–186.

[C38] Matteo Basso, Eduardo Rosales, Filippo Schiavio, Andrea Rosà, Walter Binder. *Accurate Fork-Join Profiling on the Java Virtual Machine*. In **Proceedings of the 28th International European Conference on Parallel and Distributed Computing (EuroPar)**, 2022, pp. 35-50.

[C37] Eduardo Rosales, Andrea Rosà, Matteo Basso, Alex Villazón, Adriana Orellana, Ángel Zenteno, Jhon Rivero, Walter Binder. *Characterizing Java Streams in the Wild*. In **Proceedings of the 26th International Conference on Engineering of Complex Computer Systems (ICECCS)**, 2022, pp. 143-152.

[C36] Matteo Basso, Filippo Schiavio, Andrea Rosà, Walter Binder. *Optimizing Parallel Java Streams*. In **Proceedings of the 26th International Conference on Engineering of Complex Computer Systems (ICECCS)**, 2022, pp. 23-32.

[C35] Haiyang Sun, Andrea Rosà, Daniele Bonetta, Walter Binder. *Automatically Assessing and Extending Code Coverage for NPM Packages*. In **Proceedings of the 2nd ACM/IEEE International Conference on Automation of Software Test (AST)**, 2021, pp. 40-49.

[C34] Alex Villazón, Haiyang Sun, Andrea Rosà, Eduardo Rosales, Daniele Bonetta, Isabella Defilippis, Sergio Oporto, Walter Binder. *Automated Large-scale Multi-language Dynamic Program Analysis in the Wild*. In **Proceedings of the 2021 Software Engineering Conference (SE)**, 2021, pp. 111.

[C33] Andrea Rosà, Walter Binder. *P3: A Profiler Suite for Parallel Applications on the Java Virtual Machine*. In **Proceedings of the 18th Asian Symposium on Programming Languages and Systems (APLAS)**, 2020, pp. 364–372.

[C32] Eduardo Rosales, Andrea Rosà, Walter Binder. *FJProf: Profiling Fork/Join Applications on the Java Virtual Machine*. In **Proceedings of the 13th EAI International Conference on Performance Evaluation Methodologies and Tools (VALUETOOLS)**, 2020, pp. 128-135.

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[C30] Aleksandar Prokopec, Andrea Rosà, David Leopoldseder, Gilles Duboscq, Petr Tůma, Martin Studener, Lubomìr Bulej, Yudi Zheng, Alex Villazón, Doug Simon, Thomas Würthinger, Walter Binder. *Renaissance: Benchmarking Suite for Parallel Applications on the JVM*. In **Proceedings of the 2020 Software Engineering Conference (SE)**, 2020, pp. 145–146.

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[C27] Aleksandar Prokopec, Andrea Rosà, David Leopoldseder, Gilles Duboscq, Petr Tůma, Martin Studener, Lubomìr Bulej, Yudi Zheng, Alex Villazón, Doug Simon, Thomas Würthinger, Walter Binder. *Renaissance: Benchmarking Suite for Parallel Applications on the JVM*. In **Proceedings of the 40th ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)**, 2019, pp. 31-47. Artifact evaluated.

[C26] Filippo Schiavio, Haiyang Sun, Daniele Bonetta, Andrea Rosà, Walter Binder. *NodeMOP: Runtime Verification for Node.js Applications*. In **Proceedings of the 34th ACM/SIGAPP Symposium On Applied Computing (SAC)**, 2019, pp. 1794–1801.

[C25] Eduardo Rosales, Andrea Rosà, Walter Binder. *Optimization Coaching for Fork/Join Applications on the Java Virtual Machine*. In **Proceedings of the 3rd Workshop on Modern Language Runtimes, Ecosystems, and VMs (MoreVMs)**, in conjunction with <Programming>, 2019, pp. 7:1-7:3.

[C24] Alex Villazón, Haiyang Sun, Andrea Rosà, Eduardo Rosales, Daniele Bonetta, Isabella Defilippis, Sergio Oporto, Walter Binder. *NAB: Automated Large-scale Multi-language Dynamic Program Analysis in Public Code Repositories.* In **Proceedings Companion of the 2019 ACM SIGPLAN International Conference on Systems, Programming, Languages, and Applications: Software for Humanity, (SPLASH)**, 2019, pp. 9–10.

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[C19] Eduardo Rosales, Andrea Rosà, Walter Binder. *tgp: a Task-Granularity Profiler for the Java Virtual Machine*. In **Proceedings of the 24th Asia-Pacific Software Engineering Conference (APSEC)**, 2017, pp. 570-575.

[C18] Haiyang Sun, Andrea Rosà, Walter Binder. *ADRENALIN-RV: Android Runtime Verification using Load-time Weaving*. **10th IEEE International Conference on Software Testing, Verification and Validation (ICST)**, 2017.

[C17] Andrea Rosà, Eduardo Rosales, Walter Binder. *Accurate Reification of Complete Supertype Information for Dynamic Analysis on the JVM*. In **Proceedings of the 16th International Conference on Generative Programming: Concepts & Experience (GPCE)**, 2017, pp. 104–116. ACM SIGPLAN Notices, 52(12):104-116, Dec. 2017

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[C11] Andrea Rosà, Lydia Y. Chen, Walter Binder. *An Endpoint Communication Profiling Tool for Distributed Computing Frameworks*. In **Proceedings of the 36th IEEE International Conference on Distributed Computing Systems (ICDCS)**, 2016, pp. 765–766.

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[C9] Yudi Zheng, Andrea Rosà, Luca Salucci, Yao Li, Haiyang Sun, Omar Javed, Lubomìr Bulej, Lydia Y. Chen, Zhengwei Qi, Walter Binder. *AutoBench: Finding Workloads That You Need Using Pluggable Hybrid Analyses*. In **Proceedings of the 23rd IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER)**, 2016, pp. 639–643.

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[C5] Andrea Rosà, Lydia Y. Chen, and Walter Binder. *Catching Failures of Failures at Big-Data Clusters: a Two-Level Neural Network Approach*. In **Proceedings of the 23rd IEEE International Symposium of Quality of Service (IWQoS)**, 2015, pp. 231–236.

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[C3] Andrea Rosà, Lydia Y. Chen, and Walter Binder. *Understanding Unsuccessful Executions in Big-Data Systems*. In **Proceedings of the 15th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid)**, 2015, pp. 741–744.

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