

List of publications

Rudolf FERENC, PhD

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Edited volumes

- [Fer17] **Rudolf Ferenc**, ed. *Conference of PhD Students in Computer Science*. Special Issue. Vol. 23. Acta Cybernetica 2. Szeged, Hungary: University of Szeged, 2017.
- [FBG16] **Rudolf Ferenc**, Balázs Bánhelyi, Tamás Gergely, Attila Kertész, and Zoltán Kincses, eds. *10th Jubilee Conference of PhD Students in Computer Science (CSCS 2016)*. Volume of Extended Abstracts. Szeged, Hungary: University of Szeged, June 2016.
- [Fer15] **Rudolf Ferenc**, ed. *Conference of PhD Students in Computer Science*. Special Issue. Vol. 22. Acta Cybernetica 1. Szeged, Hungary: University of Szeged, 2015.
- [FBG14] **Rudolf Ferenc**, Balázs Bánhelyi, Tamás Gergely, and Zoltán Kincses, eds. *9th Conference of PhD Students in Computer Science (CSCS 2014)*. Volume of Extended Abstracts. Szeged, Hungary: University of Szeged, June 2014.
- [MCF12] Tom Mens, Anthony Cleve, and **Rudolf Ferenc**, eds. *16th European Conference on Software Maintenance and Reengineering (CSMR'12)*. Los Alamitos (CA), USA: IEEE Computer Society, Mar. 2012.
- [CFD10] Rafael Capilla, **Rudolf Ferenc**, and Juan Carlos Dueñas, eds. *14th European Conference on Software Maintenance and Reengineering (CSMR 2010)*. Madrid, Spain: IEEE Computer Society, Mar. 2010.
- [KaF10] Yiannis Kanellopoulos and **Rudolf Ferenc**, eds. *4th International Workshop on System Quality and Maintainability (SQM 2010)*. Madrid, Spain: IEEE Computer Society, Mar. 2010.
- [FKW09] **Rudolf Ferenc**, Jens Knodel, and Andreas Winter, eds. *13th European Conference on Software Maintenance and Reengineering (CSMR 2009)*. Kaiserslautern, Germany: IEEE Computer Society, Mar. 2009.

Journal articles

- [ATH21] Gábor Antal, Zoltán Tóth, Péter Hegedűs, and **Rudolf Ferenc**. “Enhanced Bug Prediction in JavaScript Programs with Hybrid Call-Graph Based Invocation Metrics”. In: *Technologies* 9.1 (2021). Open Access, p. 3.
- [FBG20] **Rudolf Ferenc**, Dénes Bán, Tamás Grósz, and Tibor Gyimóthy. “Deep learning in static, metric-based bug prediction”. In: *Array* 6 (July 2020). Open Access, p. 100021.
- [FGG20] **Rudolf Ferenc**, Péter Gyimesi, Gábor Gyimesi, Zoltán Tóth, and Tibor Gyimóthy. “An automatically created novel bug dataset and its validation in bug prediction”. In: *Journal of Systems and Software* 169 (Nov. 2020). Open Access, p. 110691.

- [FTL20] **Rudolf Ferenc**, Zoltán Tóth, Gergely Ladányi, István Siket, and Tibor Gyimóthy. “A public unified bug dataset for java and its assessment regarding metrics and bug prediction”. In: *Software Quality Journal* 28 (2020). Open Access, pp. 1447–1506.
- [FVA20] **Rudolf Ferenc**, Tamás Viszok, Tamás Aladics, Judit Jász, and Péter Hegedűs. “Deep-water framework: The Swiss army knife of humans working with machine learning models”. In: *SoftwareX* 12 (Dec. 2020). Open Access, p. 100551.
- [GVS20] Péter Gyimesi, Béla Vancsics, Andrea Stocco, Davood Mazinianian, Árpád Beszédes, **Rudolf Ferenc**, and Ali Mesbah. “BUGSJS: a benchmark and taxonomy of JavaScript bugs”. In: *Software Testing, Verification and Reliability* (Oct. 2020). Open Access.
- [BFS18] Dénes Bán, **Rudolf Ferenc**, István Siket, Ákos Kiss, and Tibor Gyimóthy. “Prediction Models For Performance, Power, And Energy Efficiency Of Software Executed On Heterogeneous Hardware”. In: *The Journal of Supercomputing* 75.8 (Aug. 2019), pp. 4001–4025.
- [HKF18] Péter Hegedűs, István Kádár, **Rudolf Ferenc**, and Tibor Gyimóthy. “Empirical Evaluation of Software Maintainability Based on a Manually Validated Refactoring Dataset”. In: *Information and Software Technology* (Mar. 2018).
- [SAN17] Gábor Szőke, Gábor Antal, Csaba Nagy, **Rudolf Ferenc**, and Tibor Gyimóthy. “Empirical Study on Refactoring Large-scale Industrial Systems and Its Effects on Maintainability”. In: *Journal of Systems and Software* 129.C (July 2017), pp. 107–126.
- [USH15] Zoltán Ujhelyi, Gábor Szőke, Ákos Horváth, Norbert István Csiszár, László Vidács, Dániel Varró, and **Rudolf Ferenc**. “Performance Comparison of Query-based Techniques for Anti-pattern Detection”. In: *Information and Software Technology* 65.C (Sept. 2015), pp. 147–165.
- [DJN14] Richárd Dévai, Judit Jász, Csaba Nagy, and **Rudolf Ferenc**. “Designing and Implementing Control Flow Graph for Magic 4th Generation Language”. In: *Acta Cybernetica* 21.3 (2014), pp. 419–437.
- [FHV14] Csaba Faragó, Péter Hegedűs, Ádám Zoltán Végh, and **Rudolf Ferenc**. “Connection Between Version Control Operations and Quality Change of the Source Code”. In: *Acta Cybernetica* 21.4 (2014), pp. 585–607.
- [KHF14] István Kádár, Péter Hegedűs, and **Rudolf Ferenc**. “Runtime Exception Detection in Java Programs Using Symbolic Execution”. In: *Acta Cybernetica* 21.3 (2014), pp. 331–352.
- [HBL13] Péter Hegedűs, Tibor Bakota, Gergely Ladányi, Csaba Faragó, and **Rudolf Ferenc**. “A Drill-Down Approach for Measuring Maintainability at Source Code Element Level”. In: *Electronic Communications of the EASST* 60 (2013), pp. 1–21.
- [KaF12] Yiannis Kanellopoulos and **Rudolf Ferenc**. “Introduction to the Software Quality and Maintainability special issue”. In: *Software Quality Journal* 20.2 (June 2012). Editorial, pp. 263–264.

- [CDF11] Rafael Capilla, Juan Carlos Dueñas, and **Rudolf Ferenc**. “A Retrospective View of Software Maintenance and Reengineering Research – a Selection of Papers from European Conference on Software Maintenance and Reengineering 2010”. In: *Journal of Software: Evolution and Process* 25.6 (July 2011). Editorial, pp. 569–574.
- [FKW10] **Rudolf Ferenc**, Jens Knodel, and Andreas Winter. “Introduction to the Special Issue of the 13th European Conference on Software Maintenance and Reengineering (CSMR 2009)”. In: *Journal of Software: Evolution and Process* 25.2 (Nov. 2010). Editorial, pp. 111–112.
- [FIV09] Lajos Jenő Fülöp, Árpád Illia, Ádám Zoltán Végh, Péter Hegedűs, and **Rudolf Ferenc**. “Comparing and Evaluating Design Pattern Miner Tools”. In: *Annales Universitatis Scientiarum Budapestinensis de Rolando Eötvös Nominatae Sectio Computatorica* 31 (2009), pp. 167–184.
- [PMF09] Denys Poshyvanyk, Andrian Marcus, **Rudolf Ferenc**, and Tibor Gyimóthy. “Using Information Retrieval Based Coupling Measures for Impact Analysis”. In: *Empirical Software Engineering* 14.1 (Feb. 2009), pp. 5–32.
- [FHF08] Lajos Jenő Fülöp, Péter Hegedűs, and **Rudolf Ferenc**. “BEFRIEND – A Benchmark for Evaluating Reverse Engineering Tools”. In: *Periodica Polytechnica Electrical Engineering* 52.3-4 (2008), pp. 153–162.
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- [FGM02] **Rudolf Ferenc**, Juha Gustafsson, László Müller, and Jukka Paakki. “Recognizing Design Patterns in C++ programs with the integration of Columbus and Maisa”. In: *Acta Cybernetica* 15.4 (Dec. 2002), pp. 669–682.

Book chapters

- [FHG14] **Rudolf Ferenc**, Péter Hegedűs, and Tibor Gyimóthy. “Software Product Quality Models”. In: *Evolving Software Systems*. Springer Berlin Heidelberg, 2014. Chap. 3, pp. 65–100.
- [FBG05] **Rudolf Ferenc**, Árpád Beszédés, and Tibor Gyimóthy. “Extracting Facts with Columbus from C++ Code”. In: *Tools for Software Maintenance and Reengineering*. Ed. by Massimiliano Di Penta and Maarit Harsu. Franco Angeli, 2005, pp. 16–31.

Conference proceedings

- [VGS19] Vancsics Béla, Gyimesi Péter, Stocco Andrea, Mazinianian Davood, Beszédes Árpád, Ferenc Rudolf, and Mesbah Ali. “Poster: Supporting JavaScript Experimentation with BugsJS”. In: *Proceedings of the 12th IEEE Conference on Software Testing, Validation and Verification (ICST)*. IEEE. Apr. 2019, pp. 375–378.
- [BMS19] Barta Bence, Manz Günter, Siket István, and Ferenc Rudolf. “Challenges of SonarQube Plug-In Maintenance”. In: *Proceedings of the 26th IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER)*. IEEE. Feb. 2019, pp. 574–578.
- [FHG19] **Rudolf Ferenc**, Péter Hegedűs, Péter Gyimesi, Gábor Antal, Bán Dénes, and Tibor Gyimóthy. “Challenging Machine Learning Algorithms in Predicting Vulnerable JavaScript Functions”. In: *Proceedings of the 7th IEEE/ACM International Workshop on Realizing Artificial Intelligence Synergies in Software Engineering (RAISE)*. IEEE/ACM. May 2019, pp. 8–14.
- [JSP19] Judit Jász, István Siket, Edit Pengő, Zoltán Ságodi, and **Rudolf Ferenc**. “Systematic Comparison of Six Open-source Java Call Graph Construction Tools”. In: *Proceedings of the 14th International Conference on Software and Data Technologies (ICSOFIT)*. Prague, Czech Republic: INSTICC Press, July 2019, pp. 117–128.
- [GVS19] Gyimesi Péter, Vancsics Béla, Stocco Andrea, Mazinianian Davood, Beszédes Árpád, Ferenc Rudolf, and Mesbah Ali. “BugsJS: A Benchmark of JavaScript Bugs”. In: *Proceedings of the 12th IEEE Conference on Software Testing, Validation and Verification (ICST)*. IEEE. Apr. 2019, pp. 90–101.
- [AHT18] Gábor Antal, Péter Hegedűs, Zoltán Tóth, **Rudolf Ferenc**, and Tibor Gyimóthy. “Static JavaScript Call Graphs: A Comparative Study”. In: *Proceedings of the 18th IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM)*. Distinguished Paper Award. Sept. 2018, pp. 177–186.
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- [KHF16] István Kádár, Péter Hegedűs, **Rudolf Ferenc**, and Tibor Gyimóthy. “A Code Refactoring Dataset and Its Assessment Regarding Software Maintainability”. In: *Proceedings of the 23rd IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER 2016)*. Suita, Osaka, Japan: IEEE Computer Society, Mar. 2016, pp. 599–603.
- [KHF16b] István Kádár, Péter Hegedűs, **Rudolf Ferenc**, and Tibor Gyimóthy. “A Manually Validated Code Refactoring Dataset and Its Assessment Regarding Software Maintainability”. In: *Proceedings of the 12th ACM International Conference on Predictive Models and Data Analytics in Software Engineering (PROMISE 2016)*. Ciudad Real, Spain: ACM, Sept. 2016, 10:1–10:4.
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- [SNF16] Gábor Szőke, Csaba Nagy, **Rudolf Ferenc**, and Tibor Gyimóthy. “Designing and Developing Automated Refactoring Transformations: An Experience Report”. In: *Proceedings of the 23rd IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER 2016)*. Suita, Osaka, Japan: IEEE Computer Society, Mar. 2016, pp. 693–697.
- [TGF16] Zoltán Tóth, Péter Gyimesi, and **Rudolf Ferenc**. “A Public Bug Database of GitHub Projects and Its Application in Bug Prediction”. In: *Proceedings of the 16th International Conference on Computational Science and Its Applications (ICCSA 2016)*. Beijing, China: Springer International Publishing, July 2016, pp. 625–638.
- [BFS15] Dénes Bán, **Rudolf Ferenc**, István Siket, and Ákos Kiss. “Prediction Models for Performance, Power, and Energy Efficiency of Software Executed on Heterogeneous Hardware”. In: *Proceedings of the 13th IEEE International Symposium on Parallel and Distributed Processing with Applications (ISPA 2015)*. Helsinki, Finland: IEEE Computer Society, Aug. 2015, pp. 178–183.
- [FHF15] Csaba Faragó, Péter Hegedűs, and **Rudolf Ferenc**. “Code Ownership: Impact on Maintainability”. In: *Proceedings of the 15th International Conference on Computational Science and Its Applications (ICCSA 2015)*. Vol. 9159. Lecture Notes in Computer Science (LNCS). Banff, Alberta, Canada: Springer-Verlag, June 2015, pp. 3–19.
- [FHF15b] Csaba Faragó, Péter Hegedűs, and **Rudolf Ferenc**. “Cumulative Code Churn: Impact on Maintainability”. In: *Proceedings of the 15th IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM 2015)*. Bremen, Germany: IEEE Computer Society, Sept. 2015, pp. 141–150.
- [FHL15] Csaba Faragó, Péter Hegedűs, Gergely Ladányi, and **Rudolf Ferenc**. “Impact of Version History Metrics on Maintainability”. In: *Proceedings of the 8th International Conference on Advanced Software Engineering & Its Applications (ASEA 2015)*. Jeju Island, Korea: IEEE Computer Society, Nov. 2015, pp. 30–35.

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- [LTF15] Gergely Ladányi, Zoltán Tóth, **Rudolf Ferenc**, and Tibor Keresztesi. “A Software Quality Model for RPG”. In: *Proceedings of the 22nd IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER 2015)*. Montréal, Canada: IEEE Computer Society, Mar. 2015, pp. 91–100.
- [SNF15] Gábor Szőke, Csaba Nagy, Lajos Jenő Fülöp, **Rudolf Ferenc**, and Tibor Gyimóthy. “FaultBuster: An Automatic Code Smell Refactoring Toolset”. In: *Proceedings of the 15th International Working Conference on Source Code Analysis and Manipulation (SCAM 2015)*. Bremen, Germany: IEEE Computer Society, Sept. 2015, pp. 253–258.
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- [LHF14] Gergely Ladányi, Péter Hegedűs, **Rudolf Ferenc**, István Siket, and Tibor Gyimóthy. “The Connection of the Bug Density and Maintainability of Classes”. In: *8th International Workshop on Software Quality and Maintainability*. SQM. Presentation only. Antwerp, Belgium, Feb. 2014.
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