



Curriculum Vitae

Dipl.-Ing. Dr. Markus Weninger, BSc

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Birth Date	04.04.1992 in Vöcklabruck, Austria
Education	<p>2017 - 2021: PhD - Computer Science (with distinction) Johannes Kepler University Linz Thesis: Detection and Analysis of Memory Anomalies in Managed Languages Using Trace-Based Memory Monitoring</p> <p>2015 - 2017: Master - Computer Science / Software Engineering (with distinction) Johannes Kepler University Linz Thesis: User-defined Classification and Multi-grouping of Data in a Memory Monitoring Tool</p> <p>2012 - 2015: Bachelor - Informatik (with distinction) Johannes Kepler University Linz Thesis: An Experiment to Measure the Performance Trade-off between Traditional IO and Memory-mapped Files</p> <p>2006 - 2011: HTL - Higher education (with distinction) HTL Leonding, EDV & Organisation (Upper Secondary Technical and Vocational College - Department for Informatics) Thesis: Digital Teaching System – Digitales Lehrsystem an der HTL Leonding</p>
Professional Experience	<p>Since 10/2021: Senior Lecturer (for Computer Science) Johannes Kepler University, Institute for System Software – Linz</p> <p>09/2017 – 08/2021: Institute Assistant / Researcher Johannes Kepler University, Institute for System Software – Linz</p> <p>09/2017 – 01/2020: Researcher Johannes Kepler University, Christian Doppler Laboratory MEVSS - Linz</p> <p>10/2015 – 08/2017: Student Researcher Johannes Kepler University, Christian Doppler Laboratory MEVSS – Linz</p> <p>05/2013 – 09/2015: Software Engineer C#/.Net bet-at-home.com Entertainment GmbH – Linz</p> <p>07/2010 – 08/2010: Intern - Software Engineer MIC Customs Solutions / MIC Datenverarbeitung GmbH – Linz</p> <p>07/2008- 08/2008: Intern – IT AIM Technical Solutions GmbH – Timelkam</p>
Teaching Experience	<p>Algorithmen und Datenstrukturen 2 Algorithms and Datastructures 2 2021 WS – German / English</p> <p>Grundlagen der Programmierung Basics of Software Development 2017 WS - German</p> <p>Programming in Kotlin 2021 WS – English</p> <p>Seminar in Software Engineering: Memory Monitoring and Analysis (2022 SS) – German / English</p> <p>Software Engineering für Jurist*innen Software Engineering for Lawyers (2022 SS) – German</p> <p>Softwareentwicklung 1 Software Development 1 2020 WS, 2021 WS, (2022 SS) – German</p> <p>Softwareentwicklung 2 Software Development 2 2018 SS, 2019 SS, 2020 SS, 2021 SS, (2022 SS) – German</p> <p>Übersetzerbau Compiler Construction 2018 WS, 2019 WS, 2020 WS, 2021 WS – German / English</p> <p>Thesis supervision (Bachelor thesis, Master thesis, Master project): 13 bachelor theses, 6 master theses, 6 master software projects (7.5 ECTS) WS = Winter Semester, SS = Summer Semester all at Johannes Kepler University Linz</p>

Reserach community	<p>Student Volunteers Chair: ManLang 2018</p> <p>Reviewer: VISSOFT 2021, Journal for "Information and Software Technology" 2022</p>
Languages	<p>German: native English: fluent</p>
Workshops	<p>Events: CoderDojo, Frauen in die Technik, JKU Science Holidays, KinderUni, Tomorrow's Experts in Computing, Traumberuf Technik, Young Computer Scientists, ... and others ...</p> <p>Topics: JavaFX Game Programming 3D Game Programming Kreatives Programmieren mit micro:bit Creative Programming with micro:bit Spieleentwicklung mit Scratch Game Programming with Scratch Spielerisches Kennenlernen von Sortieralgorithmen Sorting is Fun ... and others ...</p>
Volunteer Work	<p>Since 2021: Rotaract Europe (ERIC – European Rotaract Information Centre) Social and community service, Europe-wide ERIC IT Committee 2021/22</p> <p>Since 2018: Rotaract KidsCamp Österreich Summer camp for kids from underprivileged families, St. Georgen / Attergau Organizer "Kids and Sponsorships" 2019-2022</p> <p>Since 2018: Rotaract Social and community service, Linz President 2019/20 President 2020/21 Secretary 2021/22 Social Project Officer 2022/23</p> <p>Since 2018: Students Union "PhD Studies - Engineering & Natural Sciences" Johannes Kepler University Linz</p> <p>2015 - 2021: Students Union "Informatik & AI" Johannes Kepler University Linz</p>
Awards	<p>2021: Award of Excellence Dissertation award by the Austrian Federal Ministry of Education, Science and Research</p> <p>2020: Best Paper "Memory Leak Analysis using Time-Travel-based and Timeline-based Tree Evolution Visualizations", Conference on Smart Tools and Applications in Graphics (STAG)</p> <p>2020: Best Paper "Memory Cities: Visualizing Heap Memory Evolution Using The Software City Metaphor", IEEE Working Conference on Software Visualization (VISSOFT)</p> <p>2018: Best Presentation of Best Paper Candidates "User-defined Classification and Multi-level Grouping of Objects in Memory Monitoring", International Conference on Performance Engineering (ICPE)</p> <p>2018: Best Paper Candidate "User-defined Classification and Multi-level Grouping of Objects in Memory Monitoring", International Conference on Performance Engineering (ICPE)</p> <p>2017: 2nd place of the Adolf-Adam Prize (price for the best informatics master thesis) Johannes Kepler University Linz</p> <p>2015: Winner of the Coding 4 a Cause (C4C:EU) Contest Association for the Advancement of Assistive Technology in Europe (AAATE) Conference</p> <p>Since 1015: 10.000+ reputation on StackOverflow Online, https://stackoverflow.com/users/2938364/markus-weninger</p> <p>Since 2013: Various "Top 10%" results at Catalysts / Cloudflight Coding Contests Linz / Vienna / Online</p>



Publications

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Publications

- [18] **Weninger, M.; Gander, E.; Mössenböck, H.,**
"Guided Exploration: A Method for Guiding Novice Users in Interactive Memory Monitoring Tools", ACM HCI (EICS) 2021
- [17] **Weninger, M.; Makor, L.; Mössenböck, H.,**
"Memory Leak Analysis using Time-Travel-based and Timeline-based Tree Evolution Visualizations", STAG 2020 (Best Paper)
- [16] **Weninger, M.; Makor, L.; Mössenböck, H.,**
"Heap Evolution Analysis Using Tree Visualizations", SSP 2020
- [15] **Weninger, M.; Gander, E.; Mössenböck, H.,**
"Investigating High Memory Churn via Object Lifetime Analysis to Improve Software Performance", SSP 2020
- [14] **Weninger, M.; Makor, L.; Mössenböck, H.,**
"Memory Cities: Visualizing Heap Memory Evolution Using the Software City Metaphor", VISSOFT 2020 (Best Paper)
- [13] **Weninger, M.; Grünbacher, P.; Gander, E.; Schörgenhumer, A.,**
"Evaluating an Interactive Memory Analysis Tool: Findings from a Cognitive Walkthrough and a User Study", ACM HCI (EICS) 2020
- [12] **Weninger, M.; Makor, L.; Mössenböck, H.,**
"Memory Leak Visualization using Evolving Software Cities", SSP 2019
- [11] **Weninger, M.; Gander, E.; Mössenböck, H.,**
"Detection of Suspicious Time Windows in Memory Monitoring", MPLR 2019
- [10] **Weninger, M.; Makor, L.; Mössenböck, H.,**
"AntTracks TrendViz: Configurable Heap Memory Visualization Over Time", ICPE 2019
- [9] **Weninger, M.; Gander, E.; Mössenböck, H.,**
"Analyzing Data Structure Growth Over Time to Facilitate Memory Leak Detection", ICPE 2019
- [8] **Weninger, M.; Grünbacher, P.; Zhang, H.; Yue, T.; Ali, S.,**
"Tool Support for Restricted Use Case Specification: Findings from a Controlled Experiment", APSEC 2018
- [7] **Weninger, M.; Gander, E.; Mössenböck, H.,**
"Analyzing the Evolution of Data Structures in Trace-Based Memory Monitoring", SSP 2018
- [6] **Weninger, M.; Gander, E.; Mössenböck, H.,**
"Utilizing Object Reference Graphs and Garbage Collection Roots to Detect Memory Leaks in Offline Memory Monitoring", ManLang 2018
- [5] **Weninger, M.; Mössenböck, H.,**

"User-defined Classification and Multi-level Grouping of Objects in Memory Monitoring", ICPE 2018 (Best Paper Candidate)

[4] **Weninger**, M.; *Lengauer, P.; Mössenböck, H.*,
"User-centered Offline Analysis of Memory Monitoring Data", ICPE 2017

[3] *Lengauer, P.; Bitto, V.; Mössenböck, H.*; **Weninger**, M.,
"A Comprehensive Java Benchmark Study on Memory and Garbage Collection Behavior of DaCapo, DaCapo Scala, and SPECjvm2008", ICPE 2017

[2] *Lengauer, P.; Bitto, V.; Fitzek, S.*; **Weninger**, M.; *Mössenböck, H.*,
"Efficient Memory Traces with Full Pointer Information", PPPJ 2016

[1] **Weninger**, M.; *Ortner, G.; Hahn, T.; Drümmer, O.; Miesenberger, K.*,
„ASVG - Accessible Scalable Vector Graphics: intention trees to make charts more accessible and usable“, Journal of Assistive Technologies, Vol. 9 Issue 4, 2015
