

Curriculum Vitae — Roman Beneder



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Personal Born: October 11, 1985, Vienna, Austria (Nationality: Austrian)
Data Languages: German (native), English
Marital Status: unmarried

Current Position

Head of the competence center Embedded Systems, Senior Researcher & Lecturer, University of Applied Sciences Technikum Wien, Vienna, Austria.

Areas of Specialization

embedded systems, embedded systems debugging, ARM-based microcontrollers, μ C-Linux device driver programming, printed circuit board design (schematic, layout), Embedded Linux application programming, multicore microcontroller programming, real-time operating systems

Memberships

since 2014 Member of the “*Institute of Electrical and Electronics Engineers*” (IEEE)

Appointments

since 2024 Projectmanager at the Department of Electronic Engineering, SAMURAI - Safe Multicopter for Reliable Aviation, managed by FFG
2023–2024 Projectmanager at the Department of Electronic Engineering, Digital Signal Processing in MIMO and dispersive Systems, managed by Infineon Technologies Austria AG
since 2020 Head of the competence center Embedded Systems at the Department of Electronic Engineering
2018–2023 Projectmanager at the Department of Electronic Engineering, Emerging Applications Lab (EAL), managed by Infineon Technologies Austria AG
2015–2018 Projectmanager at the Department of Electronic Engineering, MA23 project OpenLab - Open Laboratory
2013–2015 Researcher at the Department of Electronic Engineering, managed by the Christian Doppler Gesellschaft (CDG): Josef Ressel Center for Verification of Embedded Computing Systems
2012–2013 Researcher at the Department of Electronic Engineering, FFG Innovation Cheque: dandel.io - Development of a stereo audio-recorder for smartphones
2009–2012 Junior Researcher at the Department of Electronic Engineering, MA23 project Embedded Platforms
2007–2009 Lab assistant at the Department of Electronic Engineering, University of Applied Science Technikum Wien.

until 2005 Several short term jobs at Schwechater Kabelwerke GmbH, Conrad Electronics, Austrian Research Center Seibersdorf Research GmbH.

Education

- 2011 MSc., Thesis: “*Development of an OpenOCD compatible Debugger for ARM - CMARMJTAG*”, advisor: Dipl.-Ing. Michael Kramer, co-advisor: Dipl.-Ing. (FH) Martin Zauner, University of Applied Science Technikum Wien
- 2005 Ing., Department of Electrical Engineering and Computer Engineering – specialized in biomedical engineering – Higher Technical Education Institute TGM, Vienna

Industry-Funded Projects

- 2023–2024 “*Digital Signal Processing in MIMO and dispersive Systems*”, managed by Infineon Technologies Austria AG
- 2018–2023 “*Emerging Application Lab (EAL)*”, managed by Infineon Technologies Austria AG

Public-Funded Projects

- since 2024 “*SAMURAI - Safe Multicopter for Reliable Aviation*”, managed by FFG under grant number FO999913968
- 2015–2018 “*OpenLab - Open Laboratory*”, managed by MA23 under grant number 17-08
- 2013–2015 “*Josef Ressel Center for Verification of Embedded Computing Systems*”, managed by the Christian Doppler Forschungsgesellschaft (CDG)
- 2012–2013 “*Audio-Recorder for Smartphones*”, dandel.io - Development of a stereo audio-recorder for smartphones
- 2009–2012 “*Embedded Platforms*”, MA23

Publications

Peer-Reviewed Conference Papers

- [C19] Patrick Schmitt, Roman Beder: Introduction of a Multicopter Platform for Multi- and Transdisciplinary Education with Emphasis on Embedded and Cyber-Physical Systems, 2024 IEEE Global Engineering Education Conference EDUCON2024, KOS ISLAND, GREECE, May 2024.
- [C18] Roman Beder, Patrick Schmitt: Introduction of a Remote Lab for Indoor Object Position Control Based on Computer Vision Sensors and AI-Enabled Embedded Systems, 2024 IEEE Global Engineering Education Conference EDUCON2024, KOS ISLAND, GREECE, May 2024.
- [C17] Roman Beder, Patrick Schmitt, Clemens Koernyefalvy: A Model-Based Approach for Remote Development of Embedded Software for Object Avoidance Applications, 9th IEEE International Conference on Automation, Robotics and Applications ICARA2023, UNITED ARAB EMIRATES, ABU DHABI, February 2023.
- [C16] Roman Beder, Patrick Schmitt, Clemens Koernyefalvy: A Model-Based Approach for Robotics Education with Emphasis on Embedded Systems, 9th IEEE International Conference on Automation, Robotics and Applications ICARA2023, UNITED ARAB EMIRATES, ABU DHABI, February 2023.

- [C15] Jessica Giovagnola, Miguel Molina Fernandez, Roman Bener, Patrick Schmitt, Manuel Pegalajar Cuellar, Diego Pedro Morales Santos: *Multisensor Avionics Architecture for BVLOS Drone Services*, 12th IEEE EASN International Conference EASN2022, SPAIN, BARCELONA, October 2022.
- [C14] Roman Bener, Patrick Schmitt, Markus Lechner: *Development of a Signal Generator for Study Programs Dedicated to Electronic Engineering*, IEEE Global Engineering Education Conference EDUCON2018, SPAIN, SANTA CRUZ DE TENERIFE, April 2018.
- [C13] Roman Bener, Patrick Schmitt, Markus Lechner: *Development of a Signal-Toolkit to Increase the Availability of Measurement Equipment at Courses Dedicated to Technical Sciences*, IEEE Global Engineering Education Conference EDUCON2018, SPAIN, SANTA CRUZ DE TENERIFE, April 2018.
- [C12] Roman Bener, Patrick Schmitt, Markus Lechner: *Development of a low-cost, open-source measurement equipment for undergraduate courses dedicated to embedded systems*, EUROCON 2017 - 17th IEEE International Conference on Smart Technologies, MACEDONIA, OHRID, July 2017.
- [C11] Roman Bener, Patrick Schmitt, Markus Lechner: *Increasing the accessibility of measurement equipment for undergraduate courses dedicated to Embedded Systems*, IEEE Global Engineering Education Conference EDUCON2017, GREECE, ATHENS, April 2017.
- [C10] Roman Bener, Patrick Schmitt, Markus Lechner, Peter Roessler: *OpenLab - Development of low-cost, open-source laboratory equipment for courses dedicated to Embedded Systems*, X International GUIDE Conference, AUSTRIA, VIENNA, September 2015.
- [C9] Bernd, Glatz; Harald Schuster; Thomas Rauscher; Roman, Bener; Martin, Horauer: *Deadlock Detection Runtime Service for Embedded Linux*, ETFA15 - The 20th IEEE International Conference on Emerging Technologies & Factory Automation, LUXEMBOURG, LUXEMBOURG, September 2015.
- [C8] Bernd, Glatz; Roman, Bener; Thomas Rauscher; Martin, Horauer: *Memory Leak Detection Runtime-Service for Embedded Linux Devices*, ETFA14 - The 19th IEEE International Conference on Emerging Technologies & Factory Automation, BARCELONA, SPAIN, September 2014.
- [C7] Wolfgang, Fleck; Dominik, Hoellmueller; Gregor, Aradi; Johannes, Wittmann; Bernd, Glatz; Roman, Bener; Martin, Horauer: *dandel.io - Design of an Audio-Recorder Accessory*, MESA14 - The 10th IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications, SENIGALLIA, ITALY, September 2014.
- [C6] Bernd, Glatz; Bener, Roman; Martin, Horauer: *Runtime Verification Infrastructure for Embedded Linux*, MESA14 - The 10th IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications, SENIGALLIA, ITALY, September 2014.
- [C5] Brejcha, Philipp; Bener, Roman; Kramer, Michael: *A Two Stage Approach for a Cost-Effective and Versatile Debugging Unit and Starter Platform*, MESA12 - The 8th IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications, SUZHOU, CHINA, July 2012.
- [C4] Brejcha, Philipp; Bener, Roman; Kramer, Michael: *Increasing the Attractivity of Embedded System Courses*, IEEE EDUCON Education Engineering 2012 - Collaborative Learning & New Pedagogic Approaches in Engineering Education, MARAKESCH, MAROCCO, April 2012.
- [C3] Brejcha, Philipp; Bener, Roman; Kramer, Michael; Balog, Peter: *Dedicated Infrastructure for Academic Courses Related to Embedded Systems Design Supporting Students in Distance Learning Programs*, Proceedings of the 7th International ASME/IEEE Conference on Mechatronics & Embedded Systems & Applications ASME/IEEE MESA 2011, WASHINGTON, DC, USA, August 2011.
- [C2] Brejcha, Philipp; Bener, Roman; Kramer, Michael: *Reducing the Entrance Hurdle in Embedded System Engineering Courses*, The IEEE Region 8 EUROCON 2011 International Conference on Computer as a Tool joint with the Conference on Telecommunications, LISBON, PORTUGAL, April 2011.

- [C1] Brejcha, Philipp; Bener, Roman; Kramer, Michael: *New Approaches for a Distance Learning Course about Embedded Systems*, IEEE EDUCON Education Engineering 2011-Learning Environments and Ecosystems in Engineering Education, AMMAN, JORDAN, April 2011.

Peer-Reviewed Conference Posters

- [P1] Bener, Roman: *Innovative concepts for Embedded Systems courses*, FHK - 7th Association of Austrian Universities of Applied Sciences, DORNBIRN, AUSTRIA, April 2013.