Christoph Redl

Curriculum Vitae (01/2026)

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Personal Information and Education

Born	3rd of July, 1986 in St. Pölten, Austria
Languages	German (native), English (fluent)
Eduction	• 2014: Dr. techn. (≙ Ph.D.) in *Computer Science (AI)* (TU Vienna) • 2010: Dipl.-Ing. (≙ M.Sc.) in *Medical Informatics* (TU Vienna) • 2010: Dipl.-Ing. (≙ M.Sc.) in *Computational Intelligence* (TU V.) • 2008: BSc. in *Software and Information Engineering* (TU Vienna) • 2005: *Technical upper secondary school (IT)* in St. Pölten
Summary of skills	• Software development (focus on C#, Python, C++, Java) • Thematic focus on AI, algorithms and math in computer science • Research engineering (development of concepts and implementation in software) • Experience with various frameworks (e.g. TensorFlow, Xamarin) • Computer graphics (e.g. DirectX, OpenGL, Unreal Engine) • Extensive research and teaching experience • Comprehensible presentation and publication of complex content • Leading teams in teaching and software development • Structure information and organize workflows • Longtime general experience in the area of IT • Knowledge in medical informatics and basic knowledge in medicine

Career History

2019–ongoing	**Senior Lecturer and Researcher in AI**, FH Technikum Wien **Tasks:** research and development projects (e.g. in data science), project proposals, software development, teaching, advancement of curricula, head of the teams in the areas algorithms and data structures and AI
2015–2019	**Assistant Professor** (fixed-term), TU Vienna **Tasks:** research, project proposals, software development, experiments, data analysis, teaching, coordinating student assistants and tutors, IT administration, administrative tasks
2014–2015	**Postdoctoral Researcher (FWF) and Software Developer**, TU Vienna **Tasks:** research, software development, teaching
2010–2014	**Research Assistant (FWF) Software Developer**, TU Vienna **Tasks:** research, software development, experiments, data analysis
2007–2010	**Tutor**, TU Vienna **Tasks:** teaching in various courses (exercise lessons)

2004	**IT internship**, Cincinnati Extrusion GmbH **Tasks:** database development, IT-administration, help-desk tasks, hardware assembling
2002	**Office internship**, A. Porr AG (IT department) **Tasks:** database development, Web development, office tasks

Scientific Work

Publications	10 journal, 21 conference and 6 workshop publications (including 8 as sole author), 9 research reports (logics, symbolic AI, automated reasoning)
Scientific projects	participation in 3 FWF-funded projects (one as Co-PI), in three FFG, and in one project funded by the City of Vienna
Project proposals	significant participation in successful fundraising of two FWF projects (one as Co-PI), further participation in several FFG project proposals
Community service	reviewing for various scientific journals/ conferences/ workshops, service in several organization/ program/ award committees

Teaching Experience

Courses	14 courses at TU Vienna (AI, logics, programming, database systems), one as sole lecturer; 17 courses at FH Technikum Wien (AI, algorithms and data structures, programming, database systems, scientific working), 6 as team leader and 3 as sole lecturer
Thesis supervision	co-supervision of 4 master and 9 bachelor theses at TU Vienna, supervision of 18 master and 34 bachelor theses at FH Technikum Wien supervision of 6 industry internships at FH Technikum Wien

Computer & IT Skills

Operating Systems	Linux systems, macOS, Microsoft Windows
Programming	C, C++, Java, C#, Visual Basic (6, VBA and .NET), Python, JavaScript, PHP, Perl, Linux/Unix shell scripting
Libraries	clib, STL, Boost libraries, .NET Framework, ASP .NET, Xamarin, WPF, Java Servlets, Angular, React
Declarative Languages	Datalog, answer set programming, HEX-programs, Prolog, XML, multi-context systems, description logics, ontologies, Semantic Web, Haskell, Lambda expressions
Artificial Intelligence	TensorFlow and Keras, PyTorch, scikit, NumPy, ML.NET, TensorFlow.NET, Accord.NET, R
Text Processing	MS Office, OpenOffice, LibreOffice, LaTeX, HTML, WML
Version Control	Git, Subversion, CVS
Development Tools	GNU compiler collection, GNU build system, Valgrind, clang, Emscripten, Visual Studio, Eclipse, NetBeans, Azure DevOps, Jupyter Notebooks
Databases	SQL, PL/SQL, trigger, interfaces to procedural languages (e.g. JDBC), MS SQL Server, Oracle Database, MySQL, PostgreSQL

Server Administration	administration of file, Web, SVN and benchmark servers (NFS, Apache, HTCondor), virtualization (VirtualBox), remote access (SSH)
Graphics & Gaming	OpenGL, DirectX (esp. Direct3D), XNA Framework, MonoGame, shader programming (GLSL, HLSL, Cg), Unreal Engine, Blender
Compiler Construction	strong background in formal languages, programming language design, parser and compiler generators (Lex, Yacc, Bison, Boost Spirit)
Software Engineering	efficient programming (i.e. algorithms and data structures), software design patterns, test case design including unit tests (e.g. TestNG), agile software development, test-driven development
Benchmarking	experience in benchmarking, data analysis and presentation of the results, HTCondor and Slurm
Miscellaneous	experience with e-learning platforms (e.g. Moodle)

Participation in Software Development Projects

2026–: adwien website	React-based website for mobile advertisement (`www.adwien.com`). **Technologies:** React
2023–: MAIJA	Innovative technologies for the penal system. **Technologies:** rule-based systems, large language models
2023–: Climate Communities	IT support for the development of climate-friendly renovation solutions for small towns. **Technologies:** image recognition, neural networks, CNNs
2022–2024: KITE	Development of industrial AI applications. **Technologies:** logic-oriented programming, ontologies
pyRL	A reinforcement learning framework for Python. **Technologies:** TensorFlow, Python
Bot for Space Shooter	Development of an AI-bot for a game based on reinforcement learning. **Technologies:** C#, TensorFlow.NET, MonoGame
KITE	Applications of AI technologies in the energy sector. **Technologies:** various AI mathods, databases
AIAV	AI applications for small and medium enterprises. **Technologies:** logic-oriented programming, ontologies
ClingoApp	Port of the answer set solver *Clingo* to Android and iOS. **Technologies:** C#, JavaScript, Xamarin, Emscripten
Online Reasoner	Allows for using reasoner software via Web interfaces. **Technologies:** AJAX, virtualized server
mytheorem	A LaTeX package for flexible proof positioning.
ABC	A system for automated benchmarking, formatting of the results, e-mail notifications, and statistical comparisons of several runs. **Technologies:** HTCondor, shell and R scripts
AngryHEX	An AI agent for the *AngryBirds* computer game. **Technologies:** Java, C++
DLVHEX	A reasoner for HEX-programs (logic programs). **Technologies:** C, C++, Python, Boost libraries, GNU tools
dsync	A utility for two-way synchronization of distributed directories. **Technologies:** Java
MELD	Allows for integration of multiple knowledge-bases. **Technologies:** C++, Lex, Yacc, Boost Spirit

Administration-DB	Development of a database application for IT administration. **Technologies:** Visual Basic .NET, Microsoft Access
Construction Projects-DB	Extension of a DB-application for construction projects management. **Technologies:** Visual Basic 6, Microsoft Access
Various student projects	Participation in numerous open source- and student projects in the areas of compiler construction, image processing, computer graphics, low-level programming and AI during my years of study.