

Christoph Redl

Curriculum Vitae (12/2021)

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Personal Information and Education

Born	3rd of July, 1986 in St. Pölten, Austria
Languages	German (native), English (fluent)
Education	<ul style="list-style-type: none">• 2014: Dr. techn. (\cong Ph.D.) in <i>Computer Science (AI)</i> (TU Vienna)• 2010: Dipl.-Ing. (\cong M.Sc.) in <i>Medical Informatics</i> (TU Vienna)• 2010: Dipl.-Ing. (\cong M.Sc.) in <i>Computational Intelligence</i> (TU V.)• 2008: BSc. in <i>Software and Information Engineering</i> (TU Vienna)• 2005: <i>Technical upper secondary school (IT)</i> in St. Pölten
Summary of skills	<ul style="list-style-type: none">• Software development (focus on C#, Python, C++, Java)• Experience with various frameworks (e.g. TensorFlow, Xamarin)• Thematic focus on AI, algorithms and math in computer science• 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

Career History

2019–ongoing	Senior Lecturer and Researcher in Artificial Intelligence at University of Applied Sciences Technikum Wien Responsibilities: research, project proposals, software development (Java, Python, SQL, PL/SQL), teaching, advancement of curricula (head of the teams in the areas algorithms and data structures and AI)
2015–2019	Assistant Professor (fixed-term) at TU Vienna, Institute of Logic and Computation Responsibilities: research, project proposals, software development (C++, Java, Python), experiments, benchmarking and data analysis (R), teaching (lectures, exercise lessons, supervision of theses), coordinating student assistants and tutors, IT administration, administrative tasks
2014–2015	Postdoctoral Researcher (FWF) and Software Developer at TU Vienna, Institute of Information Systems Responsibilities: research, software development (C++, Java, Python, AJAX), teaching
2010–2014	Predocctoral Research Assistant (FWF) Software Developer at TU Vienna, Institute of Information Systems Responsibilities: research, software development (C++, Java), experiments, benchmarking and data analysis (R), teaching

2007–2010	Tutor at various institutes of TU Vienna Responsibilities: teaching (exercise lessons and solution discussions)
2004	IT internship at Cincinnati Extrusion GmbH (IT department), Vienna, Austria Responsibilities: development of a database application, IT-administration, help-desk tasks, hardware assembling
2002	Office internship at A. Porr AG (IT department), Vienna, Austria Responsibilities: extension of a database application, Web development, office tasks

Scientific Work

Publications	10 journal, 21 conference and 6 workshop publications (including 8 as sole author), 9 research reports in the areas of logics, symbolic AI and automated reasoning
Scientific projects	participation in 3 FWF-funded projects (one as Co-PI), 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 in the areas of AI/ logics/ programming/ database systems (one as sole lecturer), 15 courses at FH Technikum Wien in the areas of AI, algorithms and data structures, programming, database systems, scientific working (including 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 9 master and 18 bachelor theses as 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
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, scikit, NumPy, ML.NET, TensorFlow.NET, Accord.NET, statistics system R
Text Processing	MS Office, OpenOffice, LibreOffice, L ^A T _E X, 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	experience in the administration of file, Web, SVN and benchmark servers (NFS, Apache, HTCondor), with virtualization (VirtualBox) and with 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, experience in programming language design, experience with parser and compiler generators (Lex, Yacc, Bison, Boost Spirit)
Software Engineering	strong background in algorithms and data structures, methods for efficient programming, experience with software design patterns, experience in test case design including unit tests (e.g. TestNG), experience in agile software development and 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

AIAV (2020–2021)	AI applications for small and medium enterprises. Technologies: logic-oriented programming, ontologies
ClingoApp (2019)	Port of the answer set solver <i>Clingo</i> to Android and iOS. Technologies: C#, JavaScript, Xamarin, Emscripten
Online Reasoner (2015)	Allows for using reasoner software via Web interfaces. Technologies: AJAX, virtualized server
mytheorem (2015)	A \LaTeX package for flexible proof positioning.
ABC (2014–2019)	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 (2012–2019)	An AI agent for the <i>AngryBirds</i> computer game. Technologies: Java, C++
DLVHEX (2010–2019)	A reasoner for HEX-programs (logic programs). Technologies: C, C++, Python, Boost libraries, GNU tools
dsync (2009–2013)	A utility for two-way synchronization of distributed directories. Technologies: Java
MELD (2009–2011)	Allows for integration of multiple knowledge-bases. Technologies: C++, Lex, Yacc, Boost Spirit
Internship (2004)	Development of a database application for IT administration. Technologies: Visual Basic .NET, Microsoft Access
Internship (2002)	Extension of custom database application for the management of construction projects. Technologies: Visual Basic 6, Microsoft Access