

Curriculum Vitae

Personal Particulars

Name: *René Alexander Pawlitzek*
Citizenship: Principality of Liechtenstein
Languages: German (mother tongue)
English (excellent)
French (good)
Marital status: single
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Work Experience

2014 –	NTB - University of Applied Sciences Buchs, Switzerland	Professor for Computer Science
2012 – 2014	NTB - University of Applied Sciences Buchs, Switzerland	Docent for Computer Science
2001 – 2012	IBM Research Zurich, Switzerland	Principal R&D Engineer & Advisory Project Manager
2001 – 2001	Hewlett-Packard Cupertino, U.S.A.	Software Design Engineer

1999 – 2001	WindRiver Systems Diab-SDS office Foster City, U.S.A.	Senior Software Engineer
1997 – 1999	Borland International Scotts Valley, U.S.A.	Research & Development Engineer
1993 – 1997	Dalhousie University Halifax, Canada	Software Engineer
1992 – 1993	IBM Research Zurich, Switzerland	Software Engineer

Education

1987 – 1992	ETH Zurich Swiss Federal Inst. of Technology	Master in Computer Science (M.Sc.) <i>Dipl. Informatik-Ing. ETH</i>
1986 – 1987	ETH Zurich Swiss Federal Inst. of Technology	1 st diploma in Chemistry

Supplementary Education

2007 – 2008	IBM Project Management Program
2002 – 2003	IBM Micro MBA Program

Certification

2008	IBM Project Management Accreditation
2006	ITIL Foundation Certificate in IT-Service Management

Skills

Programming languages: Java, JavaScript, PHP, Python, C, C#, C++, Pascal/Delphi, Modula-2, Oberon, Fortran, Assembly (MC680x0, i80x86, Z80)

Operating systems: Windows (8, 7, XP), Unix/Linux (Ubuntu, FreeBSD, AIX), Android, OS/2, DOS

Graphical user interfaces: Swing, SWT, AWT, GWT, Hamlets, Dojo, JSP, JSF, Windows (Delphi VCL), OS/2 Presentation Manager

Applications: Eclipse, JBuilder, Delphi, OpenOffice, Microsoft Office, Visio, Mathematica, Maple, Matlab, Cognos, DataStage

Middleware: Apache, Tomcat, Glassfish, WebSphere

Miscellaneous: XHTML/HTML, CSS, XML (SAX, DOM, SOAP, XSLT, XSL-FO), BEEP, SQL (JDBC, DB2, Postgres), LAMP, OSGi, Web Services (SOAP, REST), AJAX, CORBA (VisiBroker), RMI, L^AT_EX, PostScript, http, KMIP, Arduino

Other skills: excellent analytical and communicational skills, problem solving nature, team player, ability to see details, passion that details be right

Fields of Expertise and Interest

- software engineering and project management
- multithread, object-oriented, and real-time programming
- desktop, web, mobile and embedded application development
- graphical user interfaces
- computer graphics and image processing
- programming languages
- computer security
- distributed systems
- embedded systems, physical computing, internet of things (IoT)
- operating systems
- computer networks
- numerics and physics

Awards

- 2011 IBM Outstanding Technical Achievement Award for key life-cycle management
- 2010 IBM Outstanding Accomplishment for Leadership in KMIP standard and contributions to TKLM product
- 2009 IBM Technical Accomplishment for Leadership in KMIP standard and contributions to TKLM product
- 2009 IBM Invention Achievement Award, 2nd Plateau
- 2004 IBM Invention Achievement Award, 1st Plateau
- 2003 IBM Outstanding Technical Achievement Award for Zurich Event Console (ZEC)
- 2003 IBM First Patent Application Award

Patents

Country	Patent No.	Patent
U.S.	8'681'990	Renewal management for data items
U.S.	8'422'686	Automated validation and execution of cryptographic key and certificate deployment and distribution
U.S.	8'185'540	Visual structuring of multivariable data
U.S.	7'930'312	System for consolidating data from distributed databases
U.S.	7'925'660	Method for visual structuring of multivariable data
Japan	4'566'256	System and method for automated validation and execution of cryptographic key and certificate deployment and distribution
U.S.	7'750'910	Monitoring events in a computer network
U.S.	7'516'114	Visual structuring of multivariable data
U.S.	7'401'101	Automatic data consolidation
China	ZL200480001568.X	Automatic data consolidation
U.S.	7'324'108	Monitoring events in a computer network

Previous Employers

2001 – 2012: IBM Zurich Research Laboratory, Rüschlikon, Switzerland

Design and implementation of a data warehouse and reporting infrastructure for business analytics

Design and implementation of a key life-cycle management system (Outstanding Technical Achievement Award in 2011)

Design, implementation and standardization of the Key Management Interoperability Protocol (KMIP) to establish a single, comprehensive protocol for the communication between enterprise key management systems and encryption systems (Technical Accomplishment in 2009, Outstanding Accomplishment in 2010). The KMIP standards efforts are governed by OASIS (<http://www.oasis-open.org/committees/kmip>).

Design and implementation of the IKEv2-SCSI part of the SPIKE protocol for the Tivoli Encryption Key Manager (TEKM) to ensure that keys are transmitted securely to endpoints

Design and implementation of a web-based graphical user interface for the IBM Integrated Security Defense (ISD), a monitoring solution which provides a comprehensive, coherent view of enterprise security

Design and implementation of an easy-to-use and easy-to-understand, small-footprint, servlet-based content creation framework called Hamlets that facilitates the development of web-based applications (Open Source Software since 2007, <http://hamlets.sourceforge.net>)

Design and implementation of a stand-alone, Java-based, real-time application called BillyScope to visualize events from the BillyGoat worm detection system

Design and implementation of a fast, Java-based web application called Web-based Zurich Event Console (WebZEC) to quickly navigate in large numbers of intrusion detection alarms

Design and implementation of a high performance stand-alone Java-based application called Zurich Event Console (ZEC) to monitor, investigate, and document huge numbers of intrusion detection alarms (Outstanding Technical Achievement Award in 2003)

Design and implementation of a graphical user interface for the IBM WebSphere Matchmaking Environment (WME), a toolkit for the construction and day-to-day management of an electronic market place

2001 – 2001: Hewlett-Packard, Cupertino, U.S.A.

Concept and design of a web-based programming environment

1999 – 2001: WindRiver Systems, Foster City, U.S.A.

Design and implementation of a multithread class browser for the Runtime Analysis suite (RTA), Integration of RTA into Java-based frameworks (Tornado 3, pRISM+), Conversion of RTA from AWT to Swing

1997 – 1999: Borland International, Scotts Valley, U.S.A.

User interface design and Integrated Development Environment (IDE) work for Delphi 4 and C++Builder 3 and 4; includes Project/Package Manager, File Management, Wizards, Object Repository, Printing

1993 – 1997: Dalhousie University, Halifax, Canada

Design and implementation of an object-oriented, multithread application (LEEPS) for OS/2 and Windows to analyse Point Source Electron Microscopy (PSEM) data

1992 – 1993: IBM Zurich Research Laboratory, Rüschlikon, Switzerland

Acquisition and processing of Scanning Tunneling Microscopy (STM) data within the research group of Dr. H. Rohrer (1986 Nobel Laureate)

Publications

- *Reflecting on Hamlets*, R. Pawlitzek, IBM Zurich Research Laboratory, CH-8803 Rüschlikon, Switzerland
December 2010
- *Key Management Interoperability Protocol Specification Version 1.0*
Key Management Interoperability Protocol Profiles Version 1.0
Key Management Interoperability Protocol Usage Guide Version 1.0
Key Management Interoperability Protocol Use Cases Version 1.0
OASIS, June 15, 2010
- *Design and Implementation of a Key-Lifecycle Management System*,
M. Björkqvist, C. Cachin, R. Haas, X. Hu, A. Kurmus, R. Pawlitzek,
and M. Vukolic, IBM Zurich Research Laboratory, CH-8803
Rüschlikon, Switzerland
Proc. Financial Cryptography and Data Security (FC 2010), volume
6052 of Lecture Notes in Computer Science, pages 160-174, Springer,
2010
- *Starting Hamlets*, R. Pawlitzek, IBM Zurich Research Laboratory,
CH-8803 Rüschlikon, Switzerland
IBM Research Report RZ 3747, August 2009
- *Suggestions for Improvements to the IT Infrastructure of the*
Dicziunari Rumantsch Grischun (DRG), R. Pawlitzek, IBM Zurich
Research Laboratory, CH-8803 Rüschlikon, Switzerland
July 28, 2009
- *Design and Implementation of a Key-Lifecycle Management System*,
M. Björkqvist, C. Cachin, R. Haas, X. Hu, A. Kurmus, R. Pawlitzek,
and M. Vukolic, IBM Zurich Research Laboratory, CH-8803
Rüschlikon, Switzerland
IBM Research Report RZ 3739, June 2009
- *KMIP - Key Management Interoperability Protocol*
KMIP - Key Management Interoperability Protocol Use Cases,
Brocade, EMC, HP, IBM, LSI, NetApp, and Thales
Draft Version 0.98 submitted to OASIS, February 10, 2009
- *Embedding Hamlets*, R. Pawlitzek, IBM Zurich Research Laboratory,
CH-8803 Rüschlikon, Switzerland
IBM developerWorks, June 19, 2007

- *Programming Hamlets, 2nd edition*, R. Pawlitzek, IBM Zurich Research Laboratory, CH-8803 Rüschlikon, Switzerland
IBM developerWorks, March 13, 2007
- *Compiling Hamlets*, R. Pawlitzek, IBM Zurich Research Laboratory, CH-8803 Rüschlikon, Switzerland
IBM developerWorks, June 20, 2006
- *Implementing Hamlets*, R. Pawlitzek, IBM Zurich Research Laboratory, CH-8803 Rüschlikon, Switzerland
IBM developerWorks, February 7, 2006
- *IBM Servlet-Based Content Creation Framework*, R. Pawlitzek, IBM Zurich Research Laboratory, CH-8803 Rüschlikon, Switzerland
IBM alphaWorks, September 30, 2005
- *Damming the Flood - Monitoring Streaming Security Event Data using BlockTables*, A. Dieberger, IBM Almaden Research Center, San Jose, CA, M. Stolze, R. Pawlitzek, IBM Zurich Research Laboratory, CH-8803 Rüschlikon, Switzerland
Poster at DUX 2005 (Designing the User Experience), San Francisco, 2005
- *Programming Hamlets*, R. Pawlitzek, IBM Zurich Research Laboratory, CH-8803 Rüschlikon, Switzerland
IBM developerWorks, May 24, 2005
- *Introducing Hamlets*, R. Pawlitzek, IBM Zurich Research Laboratory, CH-8803 Rüschlikon, Switzerland
IBM developerWorks, March 22, 2005
- *Visual Problem-Solving Support for New Event Triage in Centralized Network Security Monitoring*, M. Stolze, R. Pawlitzek, A. Wespi, IBM Zurich Research Laboratory, CH-8803 Rüschlikon, Switzerland
SIDAR, November 24-25, 2003
- *Task Support for Network Security Monitoring*, M. Stolze, R. Pawlitzek, S. Hild, IBM Zurich Research Laboratory, CH-8803 Rüschlikon, Switzerland
CHI 2003 Workshop Position Paper
- *A Web Services Matchmaking Engine for Web Services*, C. Facciorusso, S. Field, R. Hauser, Y. Hoffner, R. Humbel, R.

Pawlitzeck, W. Rjaibi and C. Siminitz, IBM Zurich Research Laboratory, CH-8803 Rüschlikon, Switzerland
Proceedings of EC-Web 2003, DEXA Conference, September 1-5, 2003

- *Digital In-line Holography*, H.J. Kreuzer, Department of Physics, Dalhousie University, Halifax, N.S., Canada, B3H 3J5, R. Pawlitzeck, IBM Zurich Research Laboratory, CH-8803 Rüschlikon, Switzerland
Europhysics News, Volume 34, Number 2, March/April 2003
- *Numerical Reconstruction for In-line Holography under Glancing Incidence*, H.J. Kreuzer and R. Pawlitzeck, Department of Physics, Dalhousie University, Halifax, Nova Scotia, Canada, B3H 3J5
Fringe '97: Proceedings of the 3rd International Workshop on Automatic Processing of Fringe Patterns, Bremen, Germany, Sept. 15-17, 1997, Eds. W. Jüptner and W. Osten (Akademie Verlag Berlin, 1997)
- *Fast Implementation of In-line Holography for High-Resolution Shape Measurement*, H.J. Kreuzer and R. Pawlitzeck, Department of Physics, Dalhousie University, Halifax, Nova Scotia, Canada, B3H 3J5
Simulation and Experiment in Laser Metrology, Eds. Z. Füzessy, W. Jüptner, and W. Osten (Akademie Verlag Berlin, 1996)