Roland Benz, Ingenieur ETH

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Curriculum Vitae

Berufliche Tätigkeiten

08.2011 – 01.2013   **Syngenta AG, Basel (via Adecco)** *(Zeitlich befristeter Arbeitsvertrag)*

Daten-/Portfolio Reporting Analyst: Innerhalb des R&D Projekt- und Portfoliomanagements. Unterstützung von Projekt- und Portfoliomanagern. Leitung eigener Projekte. Business Case und Projektplanungsdaten aus der Planisware Portfoliomanagement Software verarbeitet. Sehr umfangreiche Software fürs Berichtwesen geschrieben mit VBA-Excel, VBA-Access, und VBA–PowerPoint. Datenverarbeitung, Applikationsentwicklung, Bereitstellung von Datensätzen und Analysen.

07.2010 – 02.2011   **Feinschliff GmbH, Zürich** *(Zeitlich befristeter Arbeitsvertrag)*

Buchhalter (50% Teilzeit): Kreditoren und Anlagenbuchhaltung. Inventur aller Sachanlagen durchgeführt.

03.2009 - 07.2009   **ETH, Zürich** *(Zeitlich befristeter Arbeitsvertrag)*

Ingenieur: Im Stab Sicherheit, Gesundheit und Umwelt. Lokalisierung und Dokumentierung aller Feuerschutzanlagen in ETH Gebäuden. Bereitstellung der Dokumentation für die Versicherungs-Risikoabschätzung der ETH Gebäude durch den Versicherer. Unterstützung des Sicherheitschefs. Zur Finanzierung der CAIA L1 und CFA L1 Prüfungen.

07.2007 - 09.2007   **UBS AG, Zürich** *(Zeitlich befristeter Arbeitsvertrag)*

SAS Programmierer: Umfangreiche Programme fürs globale Risikomanagement mit der Statistiksoftware Base-SAS geschrieben. Übersetzen und Neuprogrammierung von Datenaufbereitungsalgorithmen für die Monte Carlo Simulationen zur Erzeugung der unternehmensweiten Gewinn- und Verlustverteilungen. Zur Finanzierung des FRM Diploms im 2008.

02.2006 - 04.2006   **Zürich Vers. AG, Zürich (via Poolside)** *(Zeitlich befristeter Arbeitsvertrag)*

Excel-VBA Spezialist: Erstellung einer Profitabilitätsanalyse mit Datenbank-Rohdaten in der Abteilung Underwriting Control. Datenverarbeitung und Berechnung der Loss- und Combined Ratios eines Versicherungsportfolios entlang diverser Dimensionen zur Verifizierung von Hypothesen im Rahmen des Programms The Zurich Way.

03.2005 - 08.2005   **Prose AG, Winterthur** *(Praktikum, zeitlich befristeter Arbeitsvertrag)*

Maschinenbauingenieur: Diverse Projekte in den Abteilungen Measuring & Testing und Engineering & Consulting. Arbeit mit dem 3D-CAD Inventor Model des intern entwickelten und produzierten Stadler S-Bahn Fahrgestells. Berechnung der Beanspruchung und Spannungsverteilung im Fahrgestell und den Schienen. Installation von Messgeräten und Datenerfassung in S-Bahn Testfahrten. Programmierung und statistische Verarbeitung der gemessenen Testfahrtdaten. Erstellung von Teilen der Dokumentation für die Kunden und die Regulatoren.

10.2004 - 02.2005   **InnoPark - ZH-Ostschweiz, Winterthur** *(Zeitlich befristeter Arbeitsvertrag)*

CAD Spezialist: Weiterentwicklung und Animation eines 3D-CAD Gelenkmodells mit der Software Inventor.

11.2001 – 03.2004   **ETH Zürich. Wissenschaftliche Arbeiten während des Studiums.**

ETH-Semesterarbeit: **Kontrolle adaptiver Systeme mit Zeitverzögerungen.**

Tools, Techniken, Technologien: Zustandsraummodelle, Filteralgorithmen, Regelungstechnik, Adaptive Regelung, Software in Matlab-Simulink.

ETH-Semesterarbeit: **Vorhersage / Simulation von Finanzmarktpreisen.**

Tools, Techniken, Technologien: Finanzmathematik, Kalman Filter, Zustandsraummodelle, Software in Matlab.

ETH-Diplomarbeit: **Roboter Selbstlokalisierungsalgorithmus.**

Tools, Techniken, Technologien: Pattern Recognition, Vektorgeometrie, Kalman Filter, Software in C++, Sensoren.

09.2001 - 10.2001   **ESEC SA, Cham** *(Praktikum, Zeitlich befristeter Arbeitsvertrag)*

Maschinenbauingenieur: Projekt in der R&D Wire Bonder Abteilung während des Maschinenbaustudiums. Schreiben von Testprogrammen für den Wire Bonder auf Matlab, Ausführung der Scripts und Datenerfassung zur weiteren Analyse und Auswertung.

05.2001 - 08.2001   **Alstom Power AG, Baden** *(Praktikum, Zeitlich befristeter Arbeitsvertrag)*

Maschinenbauingenieur: Projekt in der Abteilung Kraftwerk Simulations- und Lernsoftware während des Maschinenbaustudiums. Sammeln von Dokumenten, Formeln und Diagrammen für die Programmlogik des Kraftwerk Trainingssimulators.

02.1998 - 03.1998   **Sulzer Turbo, Zürich** *(Praktikum, Zeitlich befristeter Arbeitsvertrag)*

Maschinenbauingenieur: Obligatorisches Werkstattpraktikum.

01.1995 – 09.1997   **Notschlafstelle Urdorf & Spool Zürich** *(Nebenjobs auf Abruf)*

Schätzungsweise 150-200 Einsätze im Sozialbereich und etwa 10 im Event Marketing.

03.1994 - 07.1994   **NCR Schweiz, Wallisellen (AT&T)** *(Unbefristete Anstellung)*

Buchhalter: Verantwortlich für die Anlagebuchhaltung innerhalb der Schweiz. Datenverarbeitung und Mutationen in die Oracle Datenbankapplikation. Durchführung der Inventur aller Anlagen von NCR Schweiz. Verantwortlich für eine Teilzeitaushilfe. Ich kündigte, nachdem ich die Aufnahmeprüfung in die Maturitätschule KME bestanden hatte.

08.1993 - 02.1994   **AT&T, Wallisellen (via pkp)** *(Zeitlich befristeter Arbeitsvertrag)*

Kaufmännischer Angestellter: Erst im Telefonmarketing und dann in der Lagerbuchhaltung.

04.1990 - 03.1993   **Maag Pump Systems AG, Zürich** *(Unbefristete Anstellung)*

Kaufmännischer Angestellter: In der Exportabteilung und später in der Kreditoren- und Betriebsbuchhaltung. Verantwortlich für die Schulung der Abteilungskollegen als SAP Modulverantwortlicher. Stetige Stellenreduktionen und Umstrukturierungen zwangen mich zur Neuorientierung.

04.1987 - 04.1990 **Maag Zahnräder AG, Zürich** *(Lehre, zeitlich befristeter Arbeitsvertrag)*

<u>**Kaufmännische Lehre:**</u> Wechsel von einer Abteilung in die andere alle sechs Monate (Finanz-, Import-, Export-, Lagerplanung-, Verkauf-, und Einkaufs Abteilungen).

Aus- und Weiterbildungen

09.2015 – 01.2018 **Universität Zürich**

<u>Bachelor Studium Informatik</u>, Nebenfach Banking & Finance (171 Credits).

06.2010 – 06.2011 **CFA Institute, Charlottesville, VA 22903, USA (Charter Schule)**

<u>Finanzanalyst:</u> Lernstufe 1 von 3 bestanden, Lernstufe 2 nicht.

12.2009 – 09.2010 **CAIA Association, Amherst, MA 01002, USA (Charter Schule)**

<u>Finanzanalyst für alternative Produkte</u>: Lernstufe 1 von 2 gemacht & bestanden.

01.2007 – 11.2008 **GARP Inc, Jersey City, NJ, USA (Charter Schule)**

<u>Finanzieller Risikomanager:</u> FRM-Diplom erhalten.

11.1997 – 03.2004 **Eidgenössisch Technische Hochschule Zürich**

<u>Master Abschluss in Maschinenbau & Verfahrenstechnik</u> (270 Credits).

Spezialisierungen: Regelungstechnik und Betriebswirtschaftslehre, sowie fünf externe Praktika während oder kurz danach.

08.1994 – 07.1997 **KME, Schönbergstrasse 1, 8001 Zürich (damalige Adresse)**

<u>Wirtschaftsmatur</u>, Matur-Typ E, zweiter Bildungsweg.

04.1987 – 04.1990 **KV Business School, Limmatstrasse 310, 8005 Zürich**

Maag Zahnräder AG, Hardstr. 219, 8005 Zürich (damalige Adresse)

<u>Handelsschule, KV-Lehre.</u>

Informatik

Topic	Tools I used	Remarks about where and when I used them
Operating Systems	Linux-Lubuntu-18.04 Windows-10 Android-4.2 Mac	I mainly use <u>Linux</u> at home, <u>Windows</u> at work and <u>Android</u> is on my mobile device. We also had some <u>Mac</u> and <u>Linux</u> workstations at university.
ERP	SAP Oracle Odoo Planisware	I used the two big names, <u>SAP</u> and <u>Oracle</u> only at work and university. <u>Odoo</u> is open source and runs on my localhost. It contains a web-shop, webpage and several modules needed to run a small company, like inventory, accounting, etc. <u>Planisware</u> was the main portfolio and project management tool for R&D at Sygenta.
Office	<u>Microsoft-Office:</u> Excel, Word, Access, PowerPoint, SharePoint, VBA <u>LibreOffice:</u> Writer, Calc, Impress, Draw	I use or used to use all these applications regularly, and some more, like my preferred PDF reader- or manipulation programs. I usually use <u>LibreOffice</u> at home and <u>Microsoft-Office</u> at work. Some years ago, I could automate everything with <u>VBA</u> and used it to build applications at work.
Hosting	WordPress.org WordPress.com GitHub Pages GitHub Firebase YouTube App-Engine	I built a website in 2018/2019 for my own informatics projects and tutorials, which I host on <u>WordPress.org</u>, <u>GitHub</u> and <u>YouTube</u>. I keep a copy of it as a <u>WordPress.com</u> website on my localhost. Nearly all my software is synchronized with <u>Git</u> locally and remotely with <u>GitHub's API</u>. For university projects we used Google's <u>App Engine</u> and its API for <u>Firebase</u> as well as <u>Heroku</u>. I wrote a blog post tutorial on my website, about how to use the

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	Heroku Google-Drive One-Drive Slack	Firebase API from the command line. I have a YouTube channel, but only a few uploads so far, which I used for a tutorial and the website. And Google Drive and One Drive is what we used to simultaneously write our project reports and sprint documents at university. We usually used Slack for team communication, planning, hosting documents or code sharing.
Webserver	Nginx Apache2	I have two development environments for the WordPress.com website running on localhost. An old one with an Apache2 webserver and a new one with an Nginx webserver. I wrote a blog post tutorial on my website, about how to install Nginx together with PHP, MySQL and WordPress on a Linux operating system.
Version Control	Git	I use Git for all my projects. I wrote a wiki page tutorial on my GitHub account covering the basics and a blog post tutorial on my WordPress website with some more advanced topics.
Databases	SQL MySql MySql-Workbench PostgreSQL PgAdmin-3 MS-Access Excel-Pivot-Tables ORM	SQL-queries, mySql command line and its Workbench is what I use at home. Postgres and its pgAdmin is installed, because we used it for the database lectures at the university. MS-Access is what I usually use at work for myself. Excel and its Pivot-Tables is what we shipped to the business. Database access over the web is rarely done with SQL, but with some object relational mapping (ORM) data access.
Modelling Languages and Tools	UML-Activity-Diagram Petri-Nets Entity-Relationship-Model Flow-Charts State-Charts UML-Class-Models EPK BPMN Design-Patterns Draw.io Lucidchart Umlet Dia	Modelling is a big topic for informatics students. We learned several languages again and again. For our project sprints and documentations we used mainly UML class models, BPMN and Flow Charts. We also implemented several design patterns, like observer, singleton, factory, mvc, mvpc and some more. The main software tools I used to draw models, were Umlet, Dia and the two webpages Draw.io and Lucidchart.
Editors and IDEs	Tmux Vim WebStorm-IDE Intellij-IDEA Eclipse PyCharm RStudio Kile	Tmux, Vim and the command line is what I usually use at home as an IDE for all programming languages. Because it might be quite challenging to remember all the keystrokes, if not used regularly, I wrote a blog post tutorial on my website and added some summary tables. Tmux/Tmate can also be used for remote pair programming, which I demonstrated in a short YouTube video. At university I had free access to Jetbrains' ultimate editions of Webstorm, Intellij IDEA and Pycharm. Eclipse no longer works on my 32 bit computer, with which I learned Java some years ago. And in case I need to write a Latex document, I still have Kile installed.
Image Editors	Gimp Converseen LibreOffice-Draw	Gimp is GNU's open source answer to Photoshop. I use it for all the images and Gif animations on my website. I wrote a blog post tutorial on my website about how to do the basics and also covered some more advanced topics. To just convert images, I usually use Converseen and LibreOffice-Draw as well as some other open source programs to add some text boxes and lines.
Video and Sound Editors/ Players	Kdenlive VLC	I used Kdenlive to cut some video and sound sequences for a university project as well as to cut animations and videos for my WordPress website and YouTube channel. And VLC allowed me to watch podcasts of university lectures with double speed, which can be a life saver.
Programming Languages and Frameworks	Linux-Command-Line Bash AWK	This is a list of nearly all programming related languages and frameworks I came across during the last 20 years. For all languages from top, down to C-language, I have GitHub

Topic	Tools I used	Remarks about where and when I used them
	SED Regex Javascript Typescript HTML CSS Angular2 Java Springboot Python VBA NLTK C C++ Functional-Programming OOP GWT Bootstrap Jquery Latex Mathematica Maple WxMaxima R Base-SAS Matlab-Simulink .Net-Framework Visual-Basic Android-SDK Ruby Ruby-on-Rails PHP	repositories with code, wiki-pages and tutorials. Some of them, like VBA, Matlab, Java or Python, I used extensively for university- or work projects, others, like Bootstrap, Jquery, Android-SDK, .NetFramework, PHP, Ruby and Ruby-on-Rails, I learned at home with tutorials, as a preparation for job applications until about six years ago. With respect to the last five mentioned frameworks, I wouldn't say, I remember much more, than the fact, that it was rather easy for me to learn and to understand. Bash, AWK and SED are Linux languages I used, when I started to set up my webpages in 2018/2019 and also extensively documented them with own code and tutorials on my WordPress website and on my GitHub account. Python, the natural language tool kit NLTK and Regex is what we used at university for the computer linguistics lectures. Java, GWT, Angular2, TypeScript, JavaScript, HTML, CSS, and Springboot are the languages we used at university for our web projects. Most of these languages and some projects are documented on my WordPress website. I used C++ to write my diploma thesis in 2004 and C was the first language I leared at the federal institute of technology and used it again in 2017 at university. Maple, Mathematica, R, and WxMaxima were the tools I used for analysis lectures both at university and the federal institute of technology. Especially R, I used to relearn at home several times, before I sent out job-applications, which listed it as a requirement. With Matlab-Simulink and VBA I could do everything with the speed of light. With VBA, I could automate everything and used it several times at work. Matlab-Simulink was the main tool at the federal institute of technology for most control systems, numerical mathematics and machine learning lectures as well as semester theses, now called Bachelor thesis. I used it several hours a day and knew many modules, functions, and even the algorithms behind them. During university holidays I relearned Latex and tried to understand how its macro programming works.
Static Webpages	Jekyll Liquid Front-Matter Javascript CSS HTML Markdown Github-Flavoured-Markdown	Jekyll is a Ruby-Gem and framework to build static webpages and is used by GitHub Pages. I usually use it to add a theme to my Markdown tutorials on GitHub. I also have a blog post tutorial on my website with a link to two static tutorial webpages built with Jekyll. Liquid is used by Jekyll to add loops and conditional branches into HTML files and Front-Matter is used to add variables and layout infos to CSS-, SCSS- and HTML files. I also have several static webpages hosted on GitHub, which only use JavaScript, CSS, and HTML. Most webpages on GitHub are written in Markdown and rendered by Jekyll and Kramdown.
Programming Server Side	Java PHP Gradle Spring-Boot Json XML	The biggest project at university was to build a complex strategy game with separate hosting of back-end and front-end code. For the server side we had to build a Gradle project using the Springboot framework and Java. Gradle is a build tool for Java using the programming language Groovy and not XML, like Apache Maven and -Ant. Json and XML are data formats for REST APIs and used to send data between front-end client and back-end server. I only have some very rudimentary knowledge of PHP, mainly because WordPress uses it.
Server Side Browser Plugins	Postman Curl Wget	Even though, I usually prefer the command line tools over GUIs, for testing an API with HTTP requests, I make an exception and use Postman. Since the Chrome/Chromium plugin no longer works, I use the desktop version. But both curl and wget are still fine to make downloads.
Programming Client Side	Angular2 Ng2-modules HTML CSS	As mentioned above the biggest project at university was to build a complex strategy game with separate hosting of back-end and front-end code. For the front-end part we had to use Angular2, Node.js, NPM, Typescript, HTML, CSS and some Ng2 modules

Topic	Tools I used	Remarks about where and when I used them
	TypeScript Node.js NPM-Package-Manager Javascript Jquery Bootstrap Javascript	for drag and drop, tooltips, tables or popovers. Jquery and Bootstrap is what I learned and used, before I went to university. After compilation, the newer Typescript is compiled into its own subset language, JavaScript, which is understood by Browsers.
Client Side Browser Plugins	Chrome/Chromium-DevTools Firefox-Web-Developer DOM	These are the main tools for me, to analyse websites. I also use it to debug and analyze the client side of my own web applications as well as static webpages written with Jekyll. The DOM is the object model the Browser builds, when reading a webpage.
CAD and CG	Inventor-3-D-CAD-Modelling Autocad-2-D Blender Inkscape	I learned Inventor at the federal institute of technology, made a refresher course in both Inventor and Autocad during job search and used it for a project. Inkscape is an open source vector graphics tool similar to Corel-Draw, but I am not really good at it. And Blender is an open source 3D-CAD application similar to Inventor, which I have installed. I made some nice animations with Blender, which you can find on the Projects page of my WordPress website.

Links zu meinen Webseiten

https://qoolixiloop.wordpress.com/portfolio/	Project overview of my WordPress.com website.
https://github.com/qoolixiloop?tab=repositories	Repository overview of my GitHub Account. That's where I host my source code, static webpages and wiki-pages.
https://qoolixiloop.wordpress.com/portfolio/wordpress/	**Wordpress:** Describes how to set up a WordPress.com and WordPress.org website. With a link to my step-by-step tutorial on GitHub with many screenshots.
https://qoolixiloop.wordpress.com/portfolio/linux-2/	**Linux:** With links to my tutorials, cheat-sheets and Bash scripts about some very useful Linux command line tools, like SED, GREP, REGEX, CUT and a post about UTF-8 and Unicode.
https://qoolixiloop.wordpress.com/portfolio/blender/	**Blender:** Blender is a very powerful computer graphics tool, with which I made pictures and animated videos. With links to six of my videos hosted on YouTube.
https://qoolixiloop.wordpress.com/portfolio/jekyll/	**Jekyll:** With links to my step-by-step tutorials, which show how to build static webpages with this framework used by GitHub pages.
https://qoolixiloop.wordpress.com/portfolio/bash/	**Bash:** Linux shell scripting language. With links to my reference cards, cheat-sheets, example scripts and step-by-step tutorials.
https://qoolixiloop.wordpress.com/portfolio/tmux-vim-vimrc/	**Vim/Tmux/Tmate:** My IDE setup. With links to my reference cards, cheat-sheets, example scripts, step-by-step tutorials and my YouTube video about remote pair programming.
https://qoolixiloop.wordpress.com/portfolio/markdown/	**Markdown:** With links to my tutorials and examples about how to build webpages on GitHub with Markdown language.
https://qoolixiloop.wordpress.com/portfolio/git/	**Git:** With links to my wiki-pages and blog posts. You will find there everything you need to know about this version control tool used by GitHub.
https://qoolixiloop.wordpress.com/portfolio/awk/	**Awk:** Linux programming language similar to Perl. With links to my example scripts and tutorials.
https://qoolixiloop.wordpress.com/portfolio/javascript/	**JavaScript:** With links to my JavaScript cheat-sheets built with JavaScript and links to some simple example websites.
https://qoolixiloop.wordpress.com/portfolio/node/	**Node.js:** Allows to execute JavaScript code outside of a Browser. With links to some simple applications.

Curriculum Vitae

Sprachen

Deutsch:	Muttersprache Schweizer-Deutsch.
Englisch:	Sehr gut. CAE Diplom.
Französisch:	Gut, aber spreche selten. DELF-2 Diplom.
Spanisch:	Gutes Leseverständnis.
Portugiesisch:	Mittleres Leseverständnis.
Italienisch:	Mittleres Leseverständnis.
Russisch:	Aktuell aktiv am Wortschatz aufbauen.

Curriculum Vitae