

Dipl.-Inf. Matthias Ruttmann

CURRICULUM VITAE

PROFILE

Professional and disciplined software architect for 20 years. Experienced in signal processing, internet technologies, kernel development and structuring of complex projects. Used to the technical-lead role.

EXPERIENCE

03/20 – 09/20

VR Navigation: Design a Unity plugin to navigate through a scene only by controller movement and by utilizing a cut plane.

10/18 – 02/20

Mobile test system: The Rohde & Schwarz Contest Platform, a world leading platform to validate mobile technologies, introduced 5G hardware.

Responsible for the redesign of the scenario framework. Trained team members for the new platform, transition from C++ to C# and code reviews. Synchronized requirements with other departments.

Utilized ZMQ microservices, protobuf descriptions, code generators and Jenkins integration.

08/15 – 09/18

Mobile test system: Rohde & Schwarz Contest Platform.

Refactor the platform to unify test architectures and implement new validations for location-based protocols.

Design an end to end test framework to automate user input variations and a DSL to specify those variations. Develop a Jenkins plugin for evaluation.

2015

Mobile signal generator: The Aaronia BPSG is a small hardware generator for up to 6GHz continuous or modulated signals, coordinated by a PIC processor.

Design the firmware with hardware communication, update management and a stack interpreter. The PC software includes a profile editor, a compiler, processing power simulation and USB firmware upgrades.

2011 - 2014

HDMI test system: The Rohde & Schwarz Video Test Center was extended with an HDMI generator and analyser.

Integrate the FPGA based hardware to the software stack, including hardware drivers and GUI/remoting abstraction. Evolving the design documents.

2011 - 2014

Spectrum analyser: The Aaronia Spectran got a massive hardware upgrade to 100MHz real-time sweeping.

Lead the redesign of the PC software with Qt and OpenGL. Introduce live I/Q streaming, power level surveillance and signal localization.

2011

Soccer analysis: The TU München designed a streaming protocol for DFL Bundesliga games.

Design a client to display simultaneous Video and tactical information. Split the stream in meaningful, searchable scenes depending on factors like ball possession, events, player speed, groups and tactical deviation.

2003 - 2010

Software engineer at Bartels System GmbH

IP Router: System design for a Linux based IP router operating system with custom hardware. Implement major routing protocols like BGP, OSPF, RIP and a route policy framework.

Build a Linux kernel module, replacing the slow path routing with a optimized nexthop handling and custom IP lookup hardware. Include support for access lists, Berkley Paket Filters, L2TP, PPPoE and IPSec.

PCB software: Support the Bartels Auteengineer Team, a software to design and autoroute printed circuit boards.

Extend the A-star based routing algorithm for multi-threading. Design an intuitive, context sensitive layer selection and macro recording.

Email SPAM Filter: Design a SMTP proxy to extract features during mail ingress, like dial in detection, mail repetition, automated white list, IP routing.

Build a rule language for context sensitive keywords, a bayes filter and the ingress features and machine learn the rule weights.

Spectrum analyser: Visualize the data of a HF spectrum measurement device with power spectrum, max hold, average, waterfall and 3D visualization for GSM and DECT signals.

2000 - 2002

Aladin Development Studio: Design an IDE for a specialized database with designers for database structure, forms and reports.

Create a new language supporting external API, database as typesafe recordsets, compiler, stack interpreter, debugger and Active X integration.

1998 - 1999

Junior Software engineer at S.E.S.A. AG, Eschborn

Fonds backoffice and portfolio management: Setup automation for GUI tests of SER V3 Fonds.

Setup ticket management with QA Radar, support ISO 9000 certification and assist the support during the Euro introduction.

1993 - 1998

Graduate as Dipl. Inf at Fachhochschule Würzburg.

SKILLS

Expert at C#, C++ and domain specific language design.

Comprehensive understanding, what happens between compiler and µOp.

Used to the technical-lead role and SCRUM teams.

I like to inspire team members from newbies to sophisticated experts. And I love to get inspired by others or by technology.

Find detail information about projects, skills and more on my website:

<https://cv.ruttmann.name/login?code=Google07>