Andreas Schwarzkopf

Dipl.-Inf. | Senior Developer & Software Architect

20 years overall coding experience, 10 years as a professional full stack web application developer in *agile teams*. Specialized on backend business and service layers, algorithms and relational databases. *Vast IT experience in all fields*. Analytical thinker and problem solver with *excellent records*. Flourish in tough and diverse problem domains - including finance, academic research, biophysics, mobility.

High architectural experience including versioned *Rest API design, modelling business processes, operating and maintaining mission critical code. Good mentoring skills* aiming at intermediate and advanced programmers.

Capable of steering the full software development process, managing requirements, taking product ownership and leading teams.

Personal Info

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Primary Development Tools

sublime, git, tail, grep, curl, objdump, xxd, rspec & guard, SourceTree, Wireshark, Docker, VirtualBox

Computer Languages

HTML, CSS (HAML, SCSS…), JavaScript, Ruby, PL/pgSQL, Java, C, C++, PHP, Rust, Go, MIPS & x86 Assembler, (Q, Quick-, Visual-) Basic, TurboPascal, Delphi, …

Databases

PostgreSQL and PostGIS, MySQL, Redis, Oracle, Neo4J, MongoDB

Frameworks, Libs, Third Party Tools

Ruby on Rails, HTML Canvas API, jQuery, Sidekiq, Resque, DelayedJob, OpenGL, NVDIA CUDA, Firebase, Prometheus, Graphana, Graylog GitHub, Jira, Confluence, Trello, Google Drive, Slack, Flowdock, Basecamp, HipChat, NewRelic, Bugsnag, Jenkins, Codeship, Ebert, GitHub, Heroku, AWS, Twilio, CM Telecom, SendGrid, Mail Chimp, Here.com, Google Maps, OSRM

Environment, Patterns & Paradigms

Agile software development, Scrum, TDD, testing pyramid, REST APIs, GraphQL, geospatial algorithms, stored procedures & database development, background jobs, meta programming, MVC with slim controllers, thin models, business logic in service classes, SRP, GoF: "Design Patterns" & "CleanCode". Assembly & reverse engineering.

Human Languages

English
- casual talk: B2 (upper intermediate)
- professional/written: C1 (advanced)

German
- native speaker

Experience

2018 – **ioki GmbH - a brand of Deutsche Bahn AG**
Sector: Mobility & geospatial algorithms | Role: Senior System Architect | Focus: Full stack developer, scaling, algorithms and database | Achieved: Scaling the matching core and business layers to serve 50.000 Users

2017 – 2018 **Deutsche Bahn AG**
Sector: Mobility & geospatial algorithms | Role: Senior Software Developer | Focus: Full stack developer | Achieved: Built from scratch; developed, shaped and optimized the matching algorithm | Contracted for the new brand "ioki"

2011 – 2015 **Supervisory Board Member "flinc AG"**

2011 **Published Scientific Paper**
"Volumetric nonlinear anisotropic diffusion on GPUs". Third International Conference on Scale Space Methods and Variational Methods in Computer Vision (SSVM) (May 29th - June 2nd, 2011, Ein Gedi, Israel), LNCS 6667, 2011. (http://as-hu.de/assets/resources/paper_ssvm.pdf)

2010 – 2017 **flinc AG**
Sector: Mobility & geospatial algorithms | Role: 2010 Software Developer, since 2015 Senior Software Developer | Achieved: Built from scratch, scaled > 450.000 users | Excellent reference

2008 – 2009 **GSI Helmholtzzentrum für Schwerionenforschung**
Sector: Academic Research at the linear particle accelerator | Role: Research Assistant | Task: Expanding a mature radiation planning software written in C by 4d structures & non-rigid transformations | Excellent reference

2006 – 2007 **Lexmark Deutschland GmbH**
Sector: Print Manufacturer | Role: Student Assistant in Controlling | Task: Database and finance software development | Excellent reference

2003 – **Start of voluntary service at C3 Church Hanau**
Sector: Voluntary service. Supervising teams, leaders and operational processes. Since 2009 "Division manager". Since 2011 lay pastor.

2000 – **Self-employed / IT business**
Sector: IT Company. Started with Network, Webpages & Hosting. Since 2014: Development and operation of multitenancy web app "ChurchCurator". Ongoing, demanding full stack application with a few hundreds of users.

Education

2003 – 2010 **University: Technische Universität Darmstadt**
Diploma Thesis "GPU based nonlinear volumetric anisotropic diffusion filters" (A) (http://as-hu.de/assets/resources/diploma_thesis.pdf), Minor Subject Bionics (A), diploma in IT (B). Voluntary focus on IT Security and networks. Optional ungraded studying of Business Administration.

2002 – 2003 **Community Service: St. Vinzenz Hospital**
Short assistant job until university started. Excellent employer's reference

1993 – 2002 **High School: Karl Rehbein Schule**
Rated: "Excellent" (1.8). Main Subjects: Math, Physics

1989 – 1993 **Primary School: Paul-Gerhardt-Schule Kahl**