CURRICULUM VITAE

Markus Furtlehner

Senior Software Engineer & Solution Architect

Custom software end-to-end — from mainframe banking through enterprise backends to cloud-native & AI systems.

CONTACT

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PERSONAL

Born	1987 in Linz
Citizenship	Austrian

LANGUAGES

German	Native
English	Full professional proficiency
Afrikaans	Basic

EDUCATION

2002 – 2007
Higher Technical College (HTL) for IT
HTBLA Leonding · Leonding, AT

1999 – 2000
Exchange year
Excelsior Laerskool · Port Elizabeth, South Africa

1998 – 2002
Secondary school (music focus)
Musikhauptschule Leonding · Leonding, AT

1994 – 1998
Primary school
Volksschule Leonding · Leonding, AT

CERTIFICATIONS & LICENSES

- Private Pilot License (PPL-SEP)
- Driver's license (B)
- IT liability insurance (exali)

INTERESTS

Sport flying (PPL) · Archery · 3D printing · Guitar · Card tricks · Travel · Politics

PROFILE

Senior Software Engineer and Solution Architect with 19+ years of professional experience building custom software — from mainframe banking through enterprise backends to cloud-native and AI systems. I design, build and operate solutions end-to-end: from the database schema through scalable .NET / Node.js backends to DevOps, infrastructure and IoT hardware. As founder and managing director of IT-Trail GmbH I combine deep technical expertise with entrepreneurial thinking — delivering from architecture to operations.

SKILLS

Expert knowledge	**C# · .NET Core / .NET Framework · ASP.NET · Blazor · Node.js · HTML / CSS / JavaScript · Grafana · Windows client & server · Microsoft Office**
Languages	C# · TypeScript / JavaScript · SQL · PowerShell · Python · PHP · Java · PL/I · C / C++ · Assembler · VB6 / VB.NET / VBA · Go · Perl · Pascal / Basic
Frameworks & Platforms	.NET Core / .NET Framework · ASP.NET · Blazor (MudBlazor, HavIt) · SignalR · Node.js · React / React Native · HTML / CSS · Fastify / Express · Web Components · jQuery / Ajax · WordPress
Cloud & DevOps	AWS (EC2, Lambda, CloudWatch, SNS, DynamoDB) · Azure · Docker · Ansible · Caddy / Traefik · Nginx / PowerDNS · CI/CD (GitHub Actions) · Linux & Windows Server · macOS / Unix
Data & Monitoring	MSSQL · PostgreSQL · MySQL / MariaDB · Oracle PL/SQL · DB2 · Valkey / Redis · Drizzle ORM · InfluxDB · MS Access · Grafana · Splunk
AI & Agentic	LLM integration (OpenAI, Anthropic, Google) · Agentic development · MCP (Model Context Protocol) · OCR pipelines · AI-assisted engineering
IoT & Embedded	ESP32 (ESP-IDF) · Arduino / Controllino · PlatformIO · Raspberry Pi / SBCs · AVR (WinAVR, PonyProg) · PCB design (EasyEDA, EAGLE) · 3D printing (FreeCAD, Cura, OctoPrint) · KNX (ETS6) · Home Assistant / Node-RED · B&R Automation / PLC · Windows Embedded CE
Enterprise & Infrastructure	Microsoft System Center (SCCM, SCSM, SCORCH) · Active Directory · Keycloak (OIDC / OAuth 2.0) · Stripe / Paddle · WebDAV / FTP · IBM host (3270, CICS) · Tabex · SAP · Microsoft Dynamics · Kendox InfoShare (DMS) · Fortigate · Microsoft 365 / Office
Tools	Visual Studio · Eclipse · NetBeans · OptimalJ · Toad · 3ds Max / LightWave / Cinema 4D · Photoshop
Methods	Solution Architecture · Product Ownership · IT Consulting · Scrum / Agile · Team leadership

EXPERIENCE

since 2025

Managing Director & Senior Consultant · **IT-Trail GmbH** · Linz, AT

Founded and run my own company for custom development, web hosting, support and DevOps.

- Custom software development for clients across the DACH region
- Web hosting, DevOps automation and ongoing support
- Architecture and operation of in-house SaaS products

TECH C# · Node.js · Web · Windows · Linux · SQL · MS365 · Azure · AWS

since 2023

Independent IT Consultant · **itruf-consulting.at** · Linz, AT

Full-time since 2024 — custom development, web hosting, support and DevOps.

- Design and development of client-specific software solutions
- Web hosting and build-out of hosting & deployment infrastructure
- IT support and DevOps for client systems

TECH C# · Node.js · Web · Windows · Linux · SQL · MS365 · Azure · AWS

2022 – 2024

Software Engineer & Consultant · **Kendox AG** · Vienna, AT

Development and consulting in the document-management (DMS) space with a focus on cloud automation.

- Designed and built deployment tooling for automated installation of client systems in the cloud
- Automated client-system configuration in the cloud
- Consulting for DMS (Kendox InfoShare) and OCR for incoming invoices (Dexpro)

TECH PowerShell · C# · MSSQL · REST API · Kendox InfoShare · Office

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2020 – 2022

DevOps Engineer (AWS Cloud) · **Namirial GmbH** · Ansfelden, AT

Development, administration and DevOps for worldwide client systems in the AWS cloud.

- Automated EC2 deployments for various client systems worldwide
- Centralized all log files in Splunk
- Alerting based on log events across systems and applications

TECH PowerShell · AWS PowerShell SDK · Node.js · DynamoDB · AWS (EC2, Lambda, CloudWatch, SNS) · Splunk · Office

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2019 – 2020

Head of IT · **extrunet GmbH** · Eberstalzell, AT

Led the IT department including system administration, development and IT support; trained one apprentice.

- Planned and executed the relocation of the entire server & client infrastructure
- Real-time B&R ↔ Grafana interface visualizing machine parameters and measurements
- Trade-fair IT for K-Messe Düsseldorf: planning, installation and on-site support of info screens, tablets, kiosks and IT infrastructure
- Offline version of the company website for the kiosk systems
- Administration and support of network and hardware inventory
- Technical facility management at the new site: coordinating trades, info screens, gate/door access control

TECH C# · ASP.NET · MSSQL · HTML · WordPress · Grafana · B&R Automation · Fortigate · macOS · Office

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2017 – 2019

Software Engineer · **bet-at-home.com** · Linz, AT

Co-developed and evolved the backend management software with a focus on the betting module.

- Backend management software for providing and configuring bets on the website and for marketing tools
- Built a new interface importing Betradar betting data into the backend
- Outlook add-in for automatic sorting of first-level support mail and routing to the responsible department

TECH C# · MSSQL · Office (Outlook add-in)

2015 – 2017

Software Engineer & Product Owner · **Base-IT GmbH** · Ansfelden, AT

Development, consulting and product ownership for IT management tools.

- Online tool for managing new PCs/notebooks incl. automated configuration of Active Directory, permissions/logins and software deployment (SCCM), plus a Windows service monitoring device health
- Software and driver packaging (PowerShell/CMD) for SCCM and consulting on a worldwide automated Windows 10 rollout
- Online tool for managing read/write permissions on network drives
- QR code scanner for Windows tablets
- UI for diskpart as a Windows shell replacement

TECH C# · ASP.NET · MSSQL · PowerShell · CMD · SCCM · SCSM · SCORCH

2009 – 2015

Software Engineer & Product Owner · **3 Banken EDV GmbH** · Linz, AT

Host and payment-systems development, product ownership and first/second-level support for self-service banking.

- Mainframe development in PL/I for payment processing and ATMs
- Migration of EMV-National on the host and "Online to Issuer" to TCP/IP (PL/I, Java 1.6)
- Eclipse plugin to edit and run PL/I programs via batch jobs or in the CICS environment
- Online monitoring tool for self-service banking (PHP, Java)
- Responsible for software distribution and second-level support for self-service devices (ATMs, statement printers)
- CSV parser for automatic creation of transfer orders

TECH PL/I · Java · C# · ASP.NET · PHP · Perl · DB2 · MSSQL · Tabex · CICS · Office

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2008 – 2009

Software Engineer & Support · **TGW Systems Integration (formerly ECOLOG)** · Wels, AT

Commissioning of automated high-bay warehouses, database development and first/second-level support.

- On-site commissioning, configuration and customization of automated high-bay warehouses
- Warehouse visualization with direct PLC connection (C#)
- Database programming in Oracle PL/SQL
- Development of C# user controls
- IT customer support

TECH C# · DirectX 9 SDK · Oracle PL/SQL · Microsoft Dynamics

2007 – 2008

Software Developer & IT Support · **Market Institut** · Linz, AT

Built reporting and analysis software; administration and first-level support.

- Charting application for PowerPoint using ASP.NET and C#
- Questionnaire analysis software in VBA (MS Access)
- Administration and provisioning of PCs/notebooks for product tests and on-site surveys
- IT customer support

TECH ASP.NET · C# · VBA · MS Access · Office

PROJECTS

2026

Atoo Studio · atoo.ai

Agentic Development Environment (open source on GitHub): a browser-based environment for AI-assisted software development with agents, live preview, Git, containers and SSH in one interface.

TECH TypeScript · Node.js · Docker · AI Agents

2026

Sitebin.io · sitebin.io

Open-core hosting service (MIT): upload files from the browser, a script or an AI agent and instantly get a public URL — served as a static web server or as a viewer for PDF, Markdown, DOCX, code and media.

- One container: Caddy (TLS, wildcard certificates via DNS-01, on-demand TLS for custom domains) plus a Go backend — the file system is the database
- MCP server with OAuth authorization so AI agents can publish websites directly
- Per-site WebDAV/FTP, in-browser editor, password protection, expiry and deploy from CI (GitHub Action)
- Enterprise edition with accounts, tiers, billing, container hosting and GDPR features built on the IT-Trail SaaS Stack

TECH Go · Caddy · Docker · MCP · OIDC / OAuth 2.0 · Keycloak · WebDAV / FTP · HTML / CSS / JavaScript · GitHub Actions

2026

PhysioPrint

Web app for physiotherapy practices: build exercise sheets from a catalog of 500+ exercises and print them as A4/PDF, plus a training-plan manager with accounts and subscriptions. The physioprint.org domain is still private; the public launch is coming soon.

- Faceted filters by joint, function, training type and resistance, typo-tolerant search; server-side rendered and SEO-optimized in German/English (hreflang, JSON-LD)
- Training-plan manager: plans with dosage, templates, companion and info sheets; team accounts for clinics
- GDPR-compliant handling of health data: AES-256-GCM encryption per plan, data processing agreement, data export and retention limits
- Subscriptions via a pluggable payment interface (Stripe), AI-generated exercise illustrations with watermarking

TECH Node.js · Express · SSR · Stripe · AES-256-GCM · sharp · OpenAI Images · Docker

2025 – 2026

IT-Trail SaaS Stack

Open-source platform (MIT, self-hosted) for authentication, subscriptions and credit billing of SaaS apps — all with a single docker compose up.

- Auth Gateway (Keycloak, SSO across all apps, social login), PayGate (Stripe or Paddle, swappable) and Platform API as microservices
- Admin portal plus hosted account, plan and consent pages incl. GDPR export and self-service deletion
- Embeddable web components (pricing, credits, account) and SDKs for .NET, Go and Python
- MCP authorization (OAuth), license issuance and transactional mail; Caddy TLS gate in front of Traefik

TECH TypeScript · Node.js · Fastify · PostgreSQL · Drizzle ORM · Valkey · Keycloak · Stripe · Paddle · Docker Compose · Caddy · Traefik · Web Components · SDKs: .NET / Go / Python

2025 – 2026

SiteHorse.ai · sitehorse.ai

User-friendly, AI-powered platform for building small to mid-sized websites including hosting — automated and with no technical knowledge required.

TECH AI / LLM · SaaS · Node.js · TypeScript · Hosting

2025

Quell Soundmasking · soundmasking.at

Sound-masking device end-to-end for AIGA Akustik GmbH: from enclosure through PCB and firmware to the management platform and app control.

TECH ESP32 · C · EasyEDA · FreeCAD · .NET Core · React Native

2025

Cloud Platform

Central web interface with distributed agents (Windows service / Linux daemon) to manage, monitor and deploy a cloud infrastructure.

TECH .NET Core · Blazor · MudBlazor · SignalR · Docker · Linux · Windows · Grafana · PostgreSQL · Ansible · PowerDNS · Nginx · Python

2024 – 2025

Server Reporting & Management

Central web interface with distributed agents (Windows service / Linux daemon) monitoring and reporting indicators and sensors on servers.

TECH .NET Core · Blazor · MudBlazor · SignalR · Docker · Linux · Windows · Grafana · PostgreSQL

2024

Control + HMI + Web Management

HMI for device control, coupled to a Controllino (Arduino), plus a central web interface to analyze, maintain and control multiple devices.

- Remote maintenance and remote control of the devices
- OTA update mechanism for Arduino and Raspberry Pi

TECH .NET Core · Blazor · HavIt Blazor · Docker · Linux · Arduino / Controllino · PlatformIO · Raspberry Pi · MySQL · FreeCAD · Cura · OctoPrint

2023

OCR service with LLM

OCR application with a REST interface returning the data of predefined fields as structured JSON.

- Preprocessing of images/PDFs
- Asynchronous job processing (background worker) with status queries via REST
- Data encryption based on application tokens

TECH Node.js · MariaDB · Windows Server · LLMs (Google, OpenAI, Anthropic) · REST

2021 – 2023

Home automation

Designed and built a home automation system based on the KNX bus.

- Smart lighting and heating control
- Planned a 15 kWp PV system incl. smart feed-in and consumption planning

TECH KNX · ETS6 · Home Assistant · Node-RED · SBCs · ESP · Grafana · InfluxDB

since 2017

Printed Moments · printedmoments.at

A custom-built photo booth — hardware and software — for weddings, corporate events and celebrations; concept, development, support and hosting.

- Photo booth software with kiosk UI, controlling a DSLR camera and photo printers
- Smartphone feature to upload and print phone photos or download the booth photos
- Website with online gallery and customer area for configuring orders
- CAD design of assemblies and 3D-printed parts for building the booth

TECH Linux · SBCs · Arduino · Shell · Node.js · HTML / CSS / JavaScript · C · FreeCAD · Cura · OctoPrint

since 2009

Aircraft reservation & billing

Online reservation system and billing software for an aircraft fleet; concept, development, support and hosting.

- Website, fleet management and customer/pilot management incl. medicals and flight ratings
- Reservation system with SMS notifications and permission management
- Electronic aircraft logbook and semi-automated PDF invoicing with e-mail delivery

TECH C# · PHP · ASP.NET · Ajax · jQuery · Google Maps · MSSQL

2008 – 2010

Management software "Just a drink"

Management software and website for my own late-night drinks delivery service.

- Website with online shop
- Customer, order, driver and vehicle management plus accounting and reporting modules
- TomTom navigation on PDAs for simplified operation by the drivers

TECH C# · Java · PHP · ASP.NET web services · MySQL · MSSQL

2007 – 2009

Project management database for Siemens

Management of hierarchically grouped projects and activities, the people involved and milestones.

TECH MS Access · VBA · MS Excel

2006

Prototype: shared-taxi route planning

Route planning with path optimization for shared-taxi trips on Windows Embedded CE PDAs.

TECH eMbedded VB · TomTom SDK · Windows CE

SIDE ACTIVITIES

since 2017 — **Printed Moments** — Self-employed: concept, development and rental of a photo booth

2007 – 2010 — **Just a drink** — Self-employed: founded a late-night drinks delivery service

2009 — **Oberbank AG, Linz** — Freelance contractor: Windows Vista rollout

2007 — **OVB Allfinanz** — Freelance financial advisor

INTERNSHIPS

2004

Software development internship · Nexera · Vienna, AT

Driver logbook application with TomTom integration for PDAs (Windows Embedded CE), running as an overlay to the TomTom navigation software.

TECH eMbedded VB · TomTom SDK · Windows CE

2002

Software development internship · **Huber Computer** · Linz, AT

Railway station visualization showing switch positions, signals and track occupancy, incl. a custom VB user control for track sections.

TECH VB6 · MS Access

SCHOOL PROJECTS (HTL)

2006 – 2007

Custom operating system

Concept and co-development: boot sector, basic shell, task scheduler for quasi-parallel execution of multiple applications and a custom file system for floppy disks.

TECH C / C++ · Assembler

2006 – 2007

Autonomous robot

Project lead, design and build of mechanics, electronics (design and etching of the main board) and software — follows a line on the floor and navigates a maze.

TECH Assembler · C / C++ · WinAVR · PonyProg · EAGLE

2005 – 2007

3D engine in C# with DirectX 9

Project lead, design and implementation: 3D and 2D rendering (menus), controls library, sound/music, physics and input engines, lightmapping, collision detection, action mapping.

TECH .NET 2.0 · C# · DirectX 9 SDK · Visual Studio 2005 · 3ds Max · LightWave · Cinema 4D · Photoshop