

# Manuel Pasieka

**AI Lead Architect | LLM & RAG Specialist | Software & Data Engineering Expert**

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## Profile

AI Solution Architect & Consultant specializing in building secure, high-impact LLM and RAG platforms for enterprises. 15+ years of experience transforming business processes through scalable AI, from feasibility to deployment, with a focus on measurable ROI.

## Core Competencies

- AI & LLM Engineering: RAG systems, vector databases, LLM deployment & fine-tuning (Azure OpenAI, vLLM, TGI).
- Software & Data Architecture: Cloud-native design, scalable microservices, multi-tenant data platforms, hybrid search.
- Consulting & Strategy: AI use case discovery, feasibility studies, ROI analysis, executive guidance.
- Data Engineering: Python, Spark, Airflow, PostgreSQL, Redis, Qdrant, MLFlow, Celery.
- MLOps & Cloud: AWS, Azure, Kubernetes, Docker, Terraform, SageMaker, FastAPI, OpenTelemetry.
- Leadership: Tech lead, mentoring, training, cross-functional collaboration.

## Selected Projects & Consultancy Engagements

### **Misumi Europe GmbH & Motius GmbH – AI Engineer (07/2025 – Present)**

Designing and building a next-generation NLP platform to accelerate sales-driven customer service through intelligent request analysis and routing, reducing average customer query response time by 30%.

- Architected a hybrid NLP system combining Large Language Models (LLMs) with traditional NLP pipelines for robust, explainable results.
- Developed request classification and routing mechanisms to support sales teams in handling customer queries faster and more accurately.
- Optimized LLM performance with custom embeddings, fine-tuning, and retrieval workflows tailored to domain-specific data.
- Integrated the platform into customer service processes, reducing response times and enhancing workforce efficiency.

### **CANCOM AUSTRIA AG – AI SOLUTION ARCHITECT (05/2024 – 07/2025)**

- Lead architect of an AI agent platform for enterprise knowledge management powered by LLMs and RAG.
- Designed and implemented an extensible Python-based agent framework.
- Architected retrieval pipelines with Azure AI Search for secure, high-performance access.
- Built customer-specific RAG workflows and integration with enterprise systems.
- Mentored junior developers and shaped team best practices.

### **Kapsch TrafficCom AG – AI Consultant (05/2024 – 12/2024)**

- Acted as a trusted advisor to C-level executives, translating business needs into technical roadmaps and presenting ROI analyses for AI investment.
- Strategic consulting on LLM integration in business processes.
- Evaluated feasibility and ROI of LLM-driven prototypes.
- Identified high-impact automation opportunities.
- Proposed AI use cases to modernize workflows and optimize costs.

### **Pallas – Founder (06/2023 – 05/2024)**

- Created Pallas, a knowledge management platform leveraging RAG for secure enterprise document intelligence.
- Developed a containerized microservice architecture for on-prem/VPC deployment.
- Integrated multiple knowledge bases (Confluence, SharePoint, File Servers).
- Implemented hybrid search with query/document expansion.
- Optimized open-source LLMs for enterprise Q&A; and retrieval.

### **Siemens AG & Motius GmbH – Tech Lead & Data Engineer (04/2022 – 04/2025)**

- Led development of a cloud-based spare part observability platform for Siemens customers.
- Re-architected the data processing backend to improve reliability.
- Built a multi-tenant scale-to-zero architecture to optimize cloud costs.
- Enhanced data models and database access for performance gains.

### **CARIAD – Tech Lead & Data Engineer (04/2022 – 06/2023)**

- Developed an analytics platform for extracting insights from voice-based customer interactions.
- Built and maintained speech-to-text pipelines and NLP models for topic/entity extraction.
- Delivered Tableau dashboards to support business analysts with real-time insights.

### **Brantner Digital Solutions GmbH – AI Architect (05/2022)**

- Designed and prototyped a dataset manifest and MLFlow integration for tracking datasets and retraining models.
- Built visualizations for comparing model performance.

### **mySugr GmbH – AI Consultant (03/2023 – 06/2023)**

- Trained employees on LLM fundamentals.
- Designed LLM-based process automation PoCs.
- Conducted feasibility and impact studies for scaling AI solutions.

## **Professional Experience**

### **MOSTLY.AI – Senior Machine Learning Engineer (06/2020 – 04/2022)**

- Developed the synthetic data generation engine protecting privacy while maintaining data utility.
- Designed and improved encoding types for structured data.
- Built internal tooling for reproducible ML training.
- Delivered customer PoCs with technical guidance and product expertise.
- Created ML-focused training material and mentored junior scientists.

### **Craftworks GmbH – Data Scientist (01/2020 – 04/2020)**

- Delivered data science projects across industries, focusing on applied machine learning and customer needs.

### **Vienna Biocenter Core Facilities – Scientific Software Engineer (06/2012 – 10/2019)**

- Developed software platforms for neuroscience research.
- Built data analysis pipelines for neuronal activity and behavior classification.
- Designed hardware control software for experiments.
- Created data visualization and network analysis tools.

### **Universidad Politécnica de Valencia – Research Assistant (09/2011 – 10/2012)**

- Built a simulation environment controlled by a stationary replica of an autonomous vehicle.

### **Adaptivia GmbH – Embedded Systems Engineer (06/2007 – 09/2010)**

- Designed low-power SoC embedded systems for underground wireless sensor networks.

## **Entrepreneurship & Leadership**

- CEO – Pasieka AI Solutions GmbH (2024 – Present): Providing AI consultancy and tailored solutions with a focus on secure LLM adoption.
- Founder & Host – Austrian Artificial Intelligence Podcast (2021 – Present): Showcasing academia & industry AI innovations.
- Leadership Programs: Austrian Startups ELP (2023–2024), Founders Lab (2023).

## **Education**

- MSc Artificial Intelligence – Universidad Internacional de La Rioja, Spain (2018–2019)
- MSc Parallel & Distributed Computing – Universidad Politécnica de Valencia, Spain (2010–2012)
- BSc Computer Science – Technical University of Vienna, Austria (2005–2009)

## **Certifications**

- AWS Certified Cloud Practitioner
- CompTIA Security+
- Google Cybersecurity

## **Publications & Talks**

- Handbook of Data Science and AI, Ch. 8: Machine Learning Security (2024).
- Speaker – Vienna DataScience Meetup (2025): Knowledge-based Systems from Q/A to AI Agent Platforms.
- Speaker – Vienna DataScience Group (2022): CyberSec4ML: Cybersecurity Aspects in Model Training.

**Available for freelance and consulting engagements. Let's discuss your AI challenges.**

**`contact@pasieka.ai`**