

Paul-Louis Pröve

📍 Hamburg, DE ✉ mail@plpp.de 🌐 plpp 📞 pietz

Paul is a seasoned AI expert and strategic consultant with 8 years of experience in the field. He specializes in helping organizations leverage artificial intelligence to drive innovation. With extensive experience in machine learning, AI strategy and cloud-based solutions, he has guided projects across multiple industries and company scales. Paul has led numerous initiatives ranging from computer vision and NLP research to scaling machine learning applications for enterprise use. His project portfolio includes developing autonomous drones, predictive maintenance systems, NLP models, and computer vision solutions. Previously, Paul served as the CEO and Head of AI at Tensora GmbH, further refining his strategic consulting skills. By combining deep technical expertise with business acumen, he enables organizations to effectively implement AI strategies and achieve transformative results.

Education

University of Illinois <i>M.Sc. in Data Science (GPA 3.83)</i>	<i>May 2019 — May 2021</i>
Quantic School of Business <i>M.B.A. in Business Administration (90%)</i>	<i>May 2018 — March 2019</i>
Fachhochschule Wedel <i>B.Sc. in Computer Science (B+)</i>	<i>April 2014 — September 2017</i>

Experience

AI Engineer & Strategy Consultant <i>Freelance</i>	<i>August 2024 — Present</i>
<ul style="list-style-type: none"> • Strategy consulting on AI, data & cloud related matters • Concept & implementation of state-of-the-art AI solutions • Clients ranging from startups to DAX 40 and Forbes 500 companies 	
Founder & Director <i>Tensora GmbH</i>	<i>January 2022 — August 2024</i>
<ul style="list-style-type: none"> • Building a lean company of AI products and experts • Strategy consulting on AI, data & cloud related matters • Concept & implementation of state-of-the-art AI solutions 	
Senior Data Scientist <i>Lufthansa Industry Solutions</i>	<i>July 2018 — December 2021</i>
<ul style="list-style-type: none"> • IT Consultant for data, AI, NLP, and computer vision • Lead project teams with up to 5 people • Developed own suite of AI services and products 	
Consultant Data & AI <i>PwC</i>	<i>October 2017 — June 2018</i>
<ul style="list-style-type: none"> • Strategy Consultant with focus on AI • Helped customers to use AI effectively • Test Automation for Data Quality 	
IT System Analyst <i>Hapag-Lloyd</i>	<i>October 2015 — June 2017</i>
<ul style="list-style-type: none"> • Development of applications for our in-house ERP system • Automation of workflows using Excel macros • UX and UI redesign of customer quotation documents 	

Projects

AI Innovation Lab	<i>May 2023 — Present</i>
Collaborating with the CTO of a major U.S. corporation to develop AI prototypes and applications for various subsidiaries, focusing on rapid prototyping and tailored AI solutions for diverse business needs.	
<ul style="list-style-type: none"> • Technologies: Python, Azure OpenAI, GPT, Langchain, FastAPI, Cognitive Search, Vector Stores, NLP 	
Recruitment Tools	<i>October 2023 — Present</i>

We developed a series of AI tools for the recruitment industry: Matching talent, screening and evaluating them with LLMs.

- Technologies: Python, Azure, OpenAI, GPT, AI Search, Chatbots, Vector Store

Crowd Counting

September 2023 — January 2024

Developing an AI solution for accurate crowd counting in high-density settings for two clients in the professional sports and music festival business. The solution was deployed in the cloud

- Technologies: Python, PyTorch, Computer Vision, CNNs, High-Density Object Detection, CCTV Integration

GPT Finance Agent

October 2023 — November 2023

Built an automated GPT agent that has access to different databases and the web to solve complex queries of customers.

- Technologies: Python, OpenAI, GPT, Langchain, SQL, Vector Store, Agents

Data Copilot PoC

July 2023 — October 2023

Developed a cognitive search engine based on OpenAI GPT that uses a vector store and keyword search to answer questions about internal documents of the company.

- Technologies: Python, LLM, GPT, Langchain, Cognitive Search, Vector Store

Vision Quality Control

April 2023 — June 2024

Created a Computer Vision Framework and Service that allows the client to do visual quality control on the shop floor.

- Technologies: Python, MLFlow, PyTorch, Azure ML, Azure Functions, Object Detection, DevOps, CI/CD, Git

Global MLOps Platform

September 2022 — July 2023

Developed a global and AI-Act-ready MLOps platform based on AzureML and Databricks, that serves ML models at scale.

- Technologies: Python, Databricks, MLFlow, Azure ML, CosmosDB, APIM, Flask, Azure DevOps, Kubernetes, CI/CD, Git

ChatGPT NLP PoC

July 2023 — August 2023

Built a chatbot using the OpenAI API that transcribes interviews and writes a report about the interviewee

- Technologies: Python, Azure OpenAI API, ChatGPT, LLMs, Langchain, Question Answering, Speech-to-Text

Data Cleaning Platform

January 2022 — April 2023

Created a no-code data exploration and data cleaning platform that accelerates the work of Data Analysts and Data Scientists

- Technologies: Python, FastAPI, Polars, Pandas, Azure Functions, Azure Static Web Apps, CosmosDB, JavaScript, Svelte, SvelteKit, Unovis

AI Service Cloud Platform

January 2022 — June 2022

Designed and built a modern machine learning architecture for an offering of different AI services in the Azure cloud.

- Technologies: Python, Azure ML, Azure Functions, CosmosDB, Blob Storage, FastAPI, Databricks, MLFlow, CI/CD, Git

Customer Lifetime Value

January 2022 — May 2022

Analyzed large amounts of customer data, built dashboards and predicted customer value & customer churn over time.

- Technologies: Python, scikit-learn, lifetimes, AWS, Redshift, dbt, Tableau

Flight Delay Prediction

September 2021 — December 2021

Data Science lead in a team of 4 to build a prototype web app that predicts potential flight delay and customer impact.

- Technologies: Python, Monte Carlo simulation, AWS Lambda, DynamoDB

Food Waste Reduction

May 2021 — December 2021

Built an AI recommender system that bridges the gap between supply and demand in the food industry.

- Technologies: Python, node2vec, collaborative filtering, CI/CD, Git

Predictive Maintenance

March 2022 — April 2022

Project lead for building an early warning system for manufacturing machines based on time-series models

- Technologies: Python, statsmodels, Pandas, scikit-learn

Time Series Platform

January 2021 — September 2021

Built a Time-Series-Forecast platform that retrains different models on a regular basis and serves the best model at scale.

- Technologies: Python, Prophet, statsmodels, ARIMA, MLflow, Hyperopt

COVID19 People Counting

September 2020 — August 2021

Project lead of 3 for a COVID-19 computer vision solution to count people in public places and measure their distance

- Technologies: Python, PyTorch, OpenCV, FastAPI, CI/CD, Git, AWS

Autonomous Drone

May 2020 — July 2021

Built the Computer Vision part of an autonomous drone that detects and classifies damages in high resolutions images.

- Technologies: Python, TensorFlow, OpenCV, Image Segmentation, Azure Functions, Blob Storage, CosmosDB

Aviation LLM

October 2019 — October 2020

Researched and trained a domain specific LLM based on transformers to learn the language of the aviation industry

- Technologies: Python, Tensorflow, FastAPI, spaCy, NLTK, Transformers, BERT

Golden Customer NLP

January 2020 — April 2020

Built a Deep Learning NLP model that measures the similarity between user records and identifies duplicates

- ML Engineer
- Industry: Aviation
- Technologies: Python, PyTorch, TorchText, fasttext, word2vec, Embeddings

Reverse Image Search

March 2019 — March 2020

Built a reverse semantic search for >1 million images including a feedback loop that improved the tool over time

- Lead ML Engineer
- Industry: MRO
- Technologies: Python, FastAPI, OpenCV, PyTorch, Contrastive Learning, Active Learning, Web APIs, Semantic Search, Annoy

Gauge Computer Vision

February 2019 — October 2019

Implemented a computer vision algorithm deployed as an iOS app that can visually read thermometers and manometers

- AI Engineer
- Industry: Consumer Goods
- Technologies: C++, OpenCV, iOS, Swift, SQL

Facial Expression App

May 2019 — July 2019

Developed an application that detect faces and extracts emotional sentiment ranging from negative to positive

- AI Engineer
- Industry: Aviation
- Technologies: Python, FastAPI, OpenCV, dlib, CNNs, Keras

Tariff Code Classification

January 2019 — April 2019

Build an ML model to classify goods into their EU Tariff Code

- Data Scientist
- Industry: MRO
- Technologies: Python, Pandas, SQL, scikit-learn, Dashboarding, Docker

Audio Anomaly Detection

October 2018 — February 2019

Researched and built an anomaly detector that works on audio signals to learn what a malfunctioning machine sounds like

- Data Scientist
- Industry: Transport
- Technologies: Python, scikit-learn, Raspberry Pi, Embedded Systems

Dynamic Pricing

July 2018 — December 2018

Analyzed a large dataset of trading pricing to develop an algorithm that suggests a "fair market value".

- Data Scientist
- Industry: Aviation
- Technologies: Python, Pandas, R, Shiny, Docker

Anonymization CV App*April 2018 — June 2018*

Build a Computer Vision prototype that detects and anonymizes people in large photo databases

- Industry: Finance
- Technologies: Python, OpenCV, dlib

Data Governance*October 2017 — March 2018*

Team of 5 working on a large data migration and governance project for a large German bank.

- Data Scientist
- Technologies: Python, Pandas, SQL, scikit-learn, Docker

Languages

German: Native

English: Fluent

Skills

Programming: Python, Javascript, R, C++, VBA, Java, SQL

Data Processing: Numpy, Pandas, Polars, Dask, OpenCV, DBT, ETL, ELT

Cloud Azure: Functions, ML, Cosmos, App Service, OpenAI, AWS: SageMaker, EC2, Lambda,

Services: Redshift, Dynamo, GCP: Firebase, Cognitive Services, Databricks: DS & ML Workspaces, MLFlow, OpenAI: GPT API, STT, TTS, Azure Cognitive Search

Developer Tools: Git, Bitbucket, CI/CD, Helm, Azure DevOps

Project Tools: SCRUM, Kanban, Jira, Confluence

Backend & API: Flask, FastAPI, OpenAI API, ChatGPT

Frontend & Dashboard: Svelte, Static Web Apps, Tableau, Streamlit, Gradio