

Jens Laufer

Forward Deployed Engineer — autonomous AI agents and the harness that makes them reliable

Harness & Agentic Engineering · Forward Deployed · Python · LLM agents / MCP · RAG · Enterprise integration · Java / Spring Boot · Vue 3 · Docker

~16 years of full-stack engineering (freelance since 2009), a second track in data science and machine learning — and since late 2025 harness and agentic engineering: the scaffolding around an LLM that turns a language model into a system you can leave running. Complex projects delivered agile and test-driven, always close to the client.

AVAILABLE from 15 September 2026	WORKS worldwide	REMOTE SHARE 95 % 5 % on-site
DAY RATE €2,000/day excl. VAT	BASED IN Karlstein am Main Germany	

FOCUS

~16 years of full-stack engineering (since 2009), freelance throughout.

Java/Spring Boot microservices with Vue.js and React front-ends — end-to-end with Docker, Kubernetes and GitLab CI.

Strictly test-driven (TDD, JUnit, Mockito, Playwright/Selenium).

Second track in data science and machine learning — Udacity ML Engineer & Data Analyst, Kaggle, writer at Towards Data Science.

Broad industry exposure: banking/finance, insurance, automotive, telecommunications, travel, industry, retail, marketing and startups.

ROLES

- Full-stack engineering
- Solution design
- Backend engineering
- DevOps
- Build & configuration management
- Data analysis
- Prototyping
- Machine learning
- Jenkins plugin development
- Maven plugin development

SKILLS

LANGUAGES

- Java
- JavaScript
- TypeScript
- Python
- R
- Groovy

MICROSERVICES / BACKEND

- Spring Boot
- Spring
- Spring Data
- Spring Integration
- Spring Security
- OAuth2
- Microservices
- Feign
- Sleuth
- Zipkin
- Python Eve
- Python Flask
- Java EE
- EJB

FRONTEND

Vue.js

React

AngularJS

GWT

Quasar

HTML

CSS

Bootstrap

DEVOPS / CLOUD

Docker

Kubernetes

Rancher

GitLab CI

Jenkins

Maven

Grunt

npm

Artifactory

AWS (EC2, S3, SageMaker, VPC)

Microsoft Azure

DigitalOcean

TESTING

JUnit

TDD

Mockito

Selenium

DBUnit

Playwright

MACHINE LEARNING

scikit-learn

Keras

DeepLearning4J

CNN

Transfer Learning

Supervised/Unsupervised

k-means

PCA

t-SNE

Reinforcement Learning

OpenAI Gym

Topic Modeling

TOOLING / OTHER

Git

GitLab

Subversion

Jira

Confluence

Kibana

ANTLR

JavaCC

ZXing (QR)

PayPal API

RDF/XML/JSON

SAP (BAPI)

Phonegap

JBoss

Tomcat

PERSISTENCE / DATABASES

MySQL

MongoDB

PostgreSQL

Oracle

Neo4j

JPA

Hibernate

SECURITY / IAM

Keycloak

Spring Security

OAuth2

API / INTEGRATION

REST

Swagger

OpenAPI

SOAP

Webservices

CXF

XFire

Kafka

ServiceMix

DATA SCIENCE

pandas

numpy

dplyr

Jupyter

RMarkdown

ggplot

seaborn

Vega-Lite

A/B Testing

Webscraping

PROJECT HISTORY

since 12/2025

ongoing

Autonomous AI agent systems — Harness & Agentic Engineering

Solytics GmbH · Remote — AI / SaaS

Harness engineering · Agent engineering · AI system architecture · Full-stack engineering · DevOps

Building and running autonomous LLM agent systems as a **harness engineer** — the engineering around the model, not the model itself. The harness is the product: the **agent loop** and its stop conditions, **tool use over MCP**, layered **memory** (durable facts, running context, session state), **approval gates** for anything irreversible, **quality gates** that must pass before an agent may ship, **observability** over every run, **budget and rate-limit control** with model routing and fallback, plus recovery when a run is killed mid-flight. A local multi-model proxy keeps the whole thing independent of any single provider. Two systems in production: a self-directing AI business partner that plans, writes code, tests and deploys around the clock, and **Fabrik** (fabrikhq.com), a multi-agent platform for autonomous software delivery with parallel worker agents. Event-driven orchestration over Telegram, GitHub and systemd; several AI-built SaaS products shipped end to end.

Claude / Anthropic API

LLM-Agenten

Agent Harness

Multi-Agent-Orchestration

Tool Use / MCP

RAG

Prompt Engineering

Python

FastAPI

Vue 3

Go

Docker

systemd

GitHub Actions

DigitalOcean

SQLite

TDD

TypeScript

07/2024–06/2025

12 months

Digital property profile for owners

verkaufe.immobilien · Remote — Internet

Full-stack engineering · Solution design · DevOps

Full-stack development of a digital property profile that owners create and maintain themselves: Vue.js front-end, Python back-end (Eve) with a REST API and MongoDB. Day-to-day GitLab work (version control, merge-request and review workflow); built and maintained the GitLab CI pipelines for automated build and deployment. Worked to DevOps principles, owning build and operation of the services in Docker. Test-driven development, automated end-to-end tests with Playwright.

- Python
- Python Eve
- MongoDB
- TDD
- Vue.js
- Docker
- GitLab
- GitLab CI
- REST
- Playwright

07/2022–04/2024

22 months

Front- and back-end, heating cost billing

Brunata · Remote — Industry

Full-stack engineering · Solution design · DevOps

Production server-side services and APIs in Java and Spring Boot: a microservice that parses and generates heating-cost files in the Haweiko-Arge industry format. Designed and built in a microservices architecture with REST interfaces (OpenAPI, Swagger), secured with Spring Security and Keycloak, persisted in MongoDB. Day-to-day GitLab work (version control, merge-request and review workflow); built and maintained the GitLab CI pipelines for automated build and deployment. Worked to DevOps principles, owning build and operation of the services in Docker. Test-driven development (JUnit, Mockito), automated end-to-end tests with Playwright. Front-end development.

- Java
- Spring Boot
- MongoDB
- JUnit
- TDD
- React
- Docker
- GitLab
- GitLab CI
- Spring Security
- Keycloak
- Mockito
- OpenAPI
- Swagger
- REST
- Microservices
- Playwright

01/2022–06/2022

6 months

Payment back-end migration Java EE → Spring Boot

Condor · Remote — Marketing

Backend engineering

Migrated an EJB-based Java EE payment back-end to Spring Boot and shipped it as a Docker container.

- Java
- Java EE
- JPA
- Spring Boot
- MySQL
- Docker
- Mockito
- JUnit
- TDD

04/2021–11/2021

8 months

Software and data analysis in marketing

DigitalMarketer.com · Remote — Marketing

Full-stack engineering · Prototyping · Solution design · Data analysis

Server-side services in Java and Spring Boot: web-scraping microservices plus microsites (Vue.js, Quasar) with a Spring Boot back-end for calculators, surveys and questionnaire funnels; data analysis in R. Designed and built in a microservices architecture with REST interfaces (OpenAPI, Feign), persisted in PostgreSQL and MongoDB. Day-to-day GitLab work (version control, merge-request and review workflow); built and maintained the GitLab CI pipelines. Worked to DevOps principles, owning build and operation of the services in Docker and Kubernetes. Test-driven development (JUnit, Mockito).

- Scrum
- Spring Boot
- Docker
- Kubernetes
- Microservices
- REST
- R
- Python
- Java
- OpenAPI
- Feign
- JUnit
- TDD
- Mockito
- Vue.js
- Quasar
- MongoDB
- dplyr
- GitLab CI
- GitLab
- PostgreSQL
- Python Eve
- Python Flask
- DigitalOcean
- Webscraping
- A/B Testing
- Topic Modeling

01/2021–03/2021

3 months

Marketing campaign tooling

DigitalMarketer.com · Remote — Marketing

Full-stack engineering · Solution design

Tools that generate marketing campaigns and publish them to Google Ads and Twitter Ads: Java/Spring Boot microservices with REST interfaces (OpenAPI, Feign), Vue.js/Quasar front-end, storage in AWS S3. Designed and built in a microservices architecture. Day-to-day GitLab work (version control, merge-request and review workflow); built and maintained the GitLab CI pipelines. Worked to DevOps principles, owning build and operation of the services in Docker and Kubernetes. Test-driven development (JUnit, Mockito).

Scrum Spring Boot Docker Kubernetes Microservices REST Java OpenAPI Feign JUnit TDD
Mockito Vue.js Quasar AWS S3 GitLab CI GitLab

12/2019–12/2020

13 months

Web-based configuration of telecommunications devices

Deutsche Telekom · Darmstadt/Remote — Telecommunications

DevOps · Build & configuration management · Full-stack engineering

Took over an existing prototype for configuring telecommunications devices over a web interface, developed it further and moved it into production. Production server-side services and APIs in Java and Spring Boot in a microservices architecture (REST, Feign, Spring Data/JPA), Vue.js front-end, secured with Keycloak, persisted in MySQL and MongoDB. Worked to DevOps principles, owning build, operation and monitoring of the services: Docker and Kubernetes (Rancher), logging and tracing via Kibana, Sleuth and Zipkin. Day-to-day GitLab work (version control, merge-request and review workflow); built and maintained the GitLab CI pipelines for automated build and deployment. Test-driven development (JUnit, Mockito).

Java Spring Boot Docker Kubernetes Microservices REST Spring Data JPA JUnit TDD
Mockito Vue.js MySQL MongoDB HTML CSS GitLab GitLab CI Rancher Kibana Feign
Keycloak Sleuth Zipkin

07/2019–12/2019

6 months

Training a stock-trading agent

JiGaoTrading · Remote — Finance

Machine learning · Data analysis

An agent that trades autonomously on Chinese stock exchanges (reinforcement learning).

Reinforcement Learning Python R Docker AWS S3 OpenAI Gym GitLab seaborn AWS SageMaker
MongoDB

04/2019–08/2019

5 months

Data analysis and modelling at a consumer cooperative

Co-operative Group (Coop) · Manchester — Finance, Retail

Machine learning · Data analysis

Exploratory data analysis, data cleaning, aggregation; unsupervised learning (clustering, feature reduction).

R Python Jupyter RMarkdown ggplot scikit-learn pandas numpy dplyr k-means PCA
t-SNE Docker Git

11/2018–03/2019

5 months

Image homogeneity of product niches from product photos

Sellics · Remote — E-commerce

Machine learning · Data analysis

A model that quantifies the image homogeneity of Amazon product niches to spot under-served niches early. Trained a ResNet50 CNN with transfer learning (Keras) and deployed it through a build pipeline as a Java microservice with DeepLearning4J into the existing landscape; prepared a Kafka data pipeline for continuous retraining.

Python

Keras

ResNet50

Transfer Learning

CNN

DeepLearning4J

Java

Kafka

Microservices

Docker

06/2018–10/2018

5 months

Aesthetic classification of Airbnb photos

AirDNA · Remote — Travel

Machine learning · Data analysis

A microservice that scores the quality of Airbnb photos: a Python scraper built an image database (~15k images), labelling via Amazon Mechanical Turk, exploratory data analysis in R; trained a CNN with transfer learning (Keras, ResNet50) on an AWS GPU instance and deployed it as a Spring Boot microservice with DeepLearning4J.

Java

Python

Keras

ResNet50

CNN

Transfer Learning

DeepLearning4J

Spring Boot

R

AWS

GPU

Jenkins

Amazon Mechanical Turk

Web scraping

Microservices

08/2017–03/2019

20 months

Connected Van — driver's logbook

Volkswagen · Remote — Automotive

Backend engineering

Microservices for vehicle geolocation and a fuel logbook.

Spring Boot

Docker

Kubernetes

Microservices

REST

Java

Maven

Swagger

OpenAPI

Feign

Sleuth

Zipkin

MySQL

MongoDB

Jira

Confluence

JUnit

TDD

Mockito

Microsoft Azure

Kibana

Spring

Git

Kafka

04/2017–07/2017

4 months

Invoice management platform (SME) — ML

Deutsche Verrechnungstelle / DVAG · Frankfurt a. Main — Insurance, Finance, Startup

Machine learning · Data analysis

Data analysis; prototype for predicting incoming payments (ML).

Python

R

ggplot

scikit-learn

pandas

numpy

seaborn

RMarkdown

Jupyter

Git

07/2015–07/2017

25 months

Invoice management platform (SME)

Deutsche Verrechnungstelle / DVAG · Frankfurt a. Main — Insurance, Finance, Startup

Full-stack engineering

Platform covering the full invoice life cycle (creation, payment, dunning, debt collection); a range of Spring Boot microservices.

Spring Boot

Docker

Kubernetes

Microservices

REST

Java

Maven

Spring Security

OAuth2

Spring Integration

MongoDB

Jira

Confluence

JUnit

TDD

Mockito

Selenium

AngularJS

Grunt

npm

Spring

Git

02/2015–06/2015

5 months

Invoice management platform (SME) — debt-collection integration

Deutsche Verrechnungstelle / DVAG · Frankfurt a. Main — Insurance, Finance, Startup

Full-stack engineering

Microservice integrating a debt-collection provider

Spring Boot Docker Kubernetes Microservices REST Java Maven Spring Security OAuth2
Spring Integration MongoDB Jira Confluence JUnit TDD Mockito Selenium AngularJS Grunt
npm Spring Git

01/2015–02/2015

2 months

Invoice management platform (SME) — OAuth2 service

Deutsche Verrechnungstelle / DVAG · Frankfurt a. Main — Insurance, Finance, Startup

Full-stack engineering

OAuth2 microservice with an administration front-end.

Spring Boot Docker Microservices REST Java Maven Spring Security OAuth2 MongoDB
AngularJS Git

09/2014–12/2014

4 months

Invoice management platform (SME) — prototype

Deutsche Verrechnungstelle / DVAG · Frankfurt a. Main — Insurance, Finance, Startup

Full-stack engineering · Solution design · Prototyping · Build & configuration management

Evaluation of microservices and SPA approaches, prototype for an invoice management platform.

Java JavaScript HTML CSS Spring Bootstrap AngularJS Grunt npm Spring Boot Docker
Kubernetes Microservices REST Maven Spring Security MongoDB Jira Confluence Git

01/2014–08/2014

8 months

Vehicle configurator prototype

Audi · Remote — Automotive

Full-stack engineering · Solution design · Prototyping · Build & configuration management

SPA on AngularJS (front-end) with a Spring back-end and a RESTful API; comparison of persistence approaches (MySQL, MongoDB, Neo4j).

Java JavaScript HTML CSS Bootstrap Spring Spring Security Spring Data MongoDB Neo4j
MySQL Maven Tomcat JUnit TDD Mockito Selenium Jira Git

06/2012–12/2013

19 months

Business services for a booking and reservation system

Deutsches Reisebüro (DER) · Frankfurt a. Main — Travel

Backend engineering

Implementation of business services as part of the re-build of a booking and reservation system.

Java JUnit TDD Mockito Spring SOAP Webservices Jira Maven

05/2011–04/2012

12 months

QR-code based payment solution

Paycoo Ltd. · London — Finance, Startup

Full-stack engineering · Solution design · Build & configuration management

Money transfer between accounts by scanning a QR code; hybrid app (GWT) embedded in native mobile apps for broad platform coverage.

JavaJUnitTDDMockitoGWTPhonegapSpringSpring SecurityJPARESTZXing

PayPal APIMavenAWS EC2AWS VPCJenkinsArtifactory

10/2010–02/2011

5 months

Entry testing (EntryCheck) of application server environments

Deutsche Telekom · Darmstadt — Telecommunications

Jenkins plugin development · Maven plugin development

Test environment for the technical entry testing of runtime environments (build and deployment) for a large Java EE enterprise application.

JavaMavenJenkinsGroovySubversion (SVN)

04/2010–09/2010

6 months

Web services on an ESB (mediation and rating)

1&1 · Montabaur — Telecommunications

Backend engineering

Software design, web services, maintenance of the rating engine; web services that hand invoices over to SAP.

JavaSpringSpring SecurityJPABibernateMavenJUnitTDDMockitoDBUnitServiceMix

WebservicesCXFXFireSAP-AnbindungSAP BAPIJBossOracleSubversion (SVN)

05/2009–03/2010

11 months

Master data migration at a major bank

Commerzbank · Frankfurt a. Main — Banking, Finance

Backend engineering

Workflows for persisting master data, a canonical XML model, RDF description for machine processing.

JavaJava EEIBM MDM (WCC)EJBJPARDFXMLOracleSubversion (SVN)

CONTACT & CREDENTIALS

CONTACT & PROFILES

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KAGGLE	kaggle.com/jenslaufer
PUBLICATION	Towards Data Science — author

EDUCATION

11/1997	Dipl.-Ing. (Univ.) Electrical Engineering (MSc equivalent) University of Erlangen-Nuremberg
05/1989	Abitur (university entrance qualification) Gymnasium am Romäusring, Villingen-Schwenningen

CERTIFICATES

12/2018	Machine Learning Engineer Nanodegree Udacity Verify →
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08/2017

Data Analyst Nanodegree

Udacity

Verify →

Jens Laufer · Full-stack · Data · ML · Agentic Engineering · Karlstein am Main, Germany

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