Adem Usta

Senior Software Engineer · ML / MLOps

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Software engineer since 2017, from real-time video analysis to GPU model serving. I design, build and run backends, ML pipelines and the infrastructure under them, with a bias for code that stays maintainable.

EXPERIENCE

Oct 2024 – now

Staff MLOps Engineer · Integral Ad Science

Employee · Paris, France

Development and maintenance of Total Media Quality (TMQ), a real-time data processing pipeline for online advertising.

- Identified the GPU bottlenecks and isolated them into a dedicated service
- Designed a model-serving architecture to scale GPU resources, implemented with Nvidia Triton
- Aligned CI/CD with IAS deployment constraints and added functional and integration tests
- Improved observability with Prometheus and Grafana, and proposed alerting on performance and latency anomalies

Python · FastAPI · PyTorch · Nvidia Triton · Kubernetes · AWS · Kafka · Databricks · MLflow · Prometheus · Grafana

2022 – 2024

Tech Lead / Senior Software Engineer · Freelance

Freelance · Hybrid, Paris

Software engineering expertise (backend, DevOps, frontend, machine learning) for several companies.

- Ondorse: development and maintenance of a KYB (Know Your Business) SaaS
- NielsenIQ: development of ScanRewards, a mobile receipt-collection app
- AnotherBrain: monitoring stack for the Phosphor Quality product
- Context: benchmark of Ray, a Python framework for distributed ML

Python · FastAPI · PostgreSQL · React · TypeScript · Celery · Ray · Kubernetes · Prometheus · Grafana

Feb 2021 – Jul 2022

Software Engineer · Boxy (formerly Storelift)

Employee · Ivry-sur-Seine, France

In the Store-AI team, design and improvement of the applications of Boxy, a fully autonomous connected store.

- Added real-time event tracking to monitor customer behaviour, with logging and reporting for business intelligence
- Integrated temperature sensors and built an IoT app for cloud temperature monitoring
- Designed the microservices architecture of Boxy v2
- Set up code quality procedures (linting, tests, static typing) automated in GitLab CI and Git hooks

Python · Kubernetes · MQTT · RabbitMQ · Raspberry Pi · Arduino · Fluentd · Kibana · GitLab CI

Mar 2017 – Feb 2021

Software Engineer · Context

Employee · Paris, France

Design and development of software around real-time video analysis with deep learning.

- Built an internal tool to manage image and video datasets, and modernised the annotation tools
- Designed a REST API for video upload and analysis (celebrity, logo and object detection), with versioning and blue-green deployments
- Developed a client dashboard for video analytics
- Refactored the core compute service and moved to microservices on Kafka, deployed on Kubernetes

Python · PyTorch · Django · FastAPI · React · Angular · PostgreSQL · Kafka · Kubernetes · AWS

EDUCATION

2016 **Master 2, Image & Sound for Intelligent Systems**
Pierre and Marie Curie University (Paris VI) · with honors

2015 **Master 1, Robotics Engineering & Intelligent Systems**
Pierre and Marie Curie University (Paris VI) · high honors

2014 **Bachelor, Electronic Engineering**
Pierre and Marie Curie University (Paris VI) · high honors

2010 **Baccalaureate, Science & Engineering**
Le Corbusier High School (Aubervilliers) · honors

SKILLS

SOFTWARE	Python, TypeScript, FastAPI, Pydantic, Django, Temporal, React, Svelte, React Native, Expo, PostgreSQL, MySQL, Kubernetes, Docker, AWS, VPS, CI/CD, Clean architecture, TDD
AGENTIC AI	LLM agents, Agent evaluation, vLLM, Nvidia Triton, PyTorch, TensorFlow, Ray, MLflow, MLOps, GPU scaling, Self-hosted models, Computer vision
HARDWARE	Raspberry Pi, ESP32, Arduino, PCB design, Sensors, C/C++, Home Assistant, I2C, MQTT, k3s, Prometheus, Grafana
ROBOTICS	ROS 2, C++, Python, Perception, Computer vision, Pattern recognition, Control, Signal processing, Mechanical design, Kinematics, Haptics, Virtual reality

LANGUAGES

French (Native) · Turkish (Native) · English (Fluent)

CERTIFICATIONS

Machine Learning Specialization · DeepLearning.AI, Stanford University

Deep Learning Specialization · DeepLearning.AI, Stanford University