

Alexey Belochenko Senior Data & MLOps Engineer

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WORK EXPERIENCE

Software Developer, GE Vernova (Consultant)

Aug 2024 – Dec 2025 | Barcelona, Spain

- Refactored critical Airflow DAGs using vectorized algorithms and GPU acceleration; achieving a 5-10x acceleration in Celery task execution and significantly improving pipeline reliability.
- Engineered proprietary scientific Python libraries for meteorological analysis and wind energy assessment; built custom vectorization logic that reduced compute time by 40% while simplifying developer workflows.
- Designed and deployed scalable simulation pipelines on GPU-accelerated Kubernetes clusters, managing complex operational research workflows via Airflow and Celery.
- Spearheaded Python version upgrades across 4+ core services, eliminating legacy technical debt and delivering a 30% system performance gain.
- Architected and deployed a comprehensive monitoring stack (Grafana, Loki, Promtail, Prometheus), enabling real-time performance tracking and drastically reducing incident resolution time.


Data Engineer Consultant, Trialing Health S.L

Dec 2023 – Aug 2024 | Barcelona, Spain

- Re-architected the core Airflow-based ETL pipeline, slashing data processing time by **67% (from 120 to 40 mins)** and enabling near real-time analytics.
- Led a strategic refactoring initiative that reduced system errors by **66%**, accelerating the production deployment cycle.
- Designed a scalable Data Lake solution on **AWS S3** with automated validation mechanisms, ensuring strict data integrity for clinical trials.

Co-Founder & R&D Lead, Elliscope

Jul 2019 – Mar 2022

Founded an R&D venture focused on autonomous aerial systems and hybrid energy solutions. Represented the project at WebSummit 2021. <https://elliscope.zeelex.me/> 

- Led the engineering of onboard control systems for unmanned airships, integrating hardware sensors with Python-based telemetry processing.
- Directed 3 years of R&D in remote sensing algorithms and zero-emission energy systems, securing membership in the **Ukrainian Space Association**.
- Developed custom navigation and stability algorithms using **NumPy** and ML techniques for autonomous flight control in variable weather conditions.

Senior Data & MLOps Consultant (Project-based),

Independent Contractor (Lemay.ai, DataArt, Inmost, Virtuae)

Jul 2021 – Aug 2023

Delivered critical infrastructure upgrades and ML solutions for international tech clients, focusing on cloud migration and high-load systems.

- **Infrastructure Resilience & Cost:** Implemented a Disaster Recovery plan on **AWS EDR** ensuring **99% availability**, and optimized cloud resource allocation (S3/Lambda) to reduce data storage and processing costs by **15–25%**.
- **Intelligent Data Processing:** Engineered high-throughput pipelines integrating **Computer Vision** and **NLP** (AWS Rekognition/Texttract), increasing data extraction accuracy by **40%** and boosting analytics throughput.
- **Architecture Modernization:** Orchestrated on-premise to cloud migrations and optimized **PostgreSQL** schemas for aggregation, achieving a **10% increase** in analytics efficiency and standardizing CI/CD workflows.

Backend Engineer (ML Infrastructure), Sembly AI

Oct 2019 – Jul 2021 | Odesa, Ukraine

- Established end-to-end automated training and validation workflows, cutting model time-to-production by **50%** and standardizing deployment cycles.
- Architected a high-throughput audio ingestion system using **Apache Kafka**, enabling real-time processing and driving a **30% improvement** in system responsiveness.
- Overhauled NLP inference pipelines, achieving a **25% speed boost** and a **15% increase in model**
- Decoupled the monolithic AI platform into fault-tolerant microservices, enhancing system resilience and slashing deployment latency by **40%**.

EDUCATION

MSc in Modeling for Science and Engineering,

Universidade Autónoma de Barcelona (UAB)

2025 | Barcelona, Spain

Focus: Mathematical modeling, Dynamical Systems and Complexity, High-Performance Computing (HPC)

Bachelor's Degree in Applied Mathematics and Computing,

Odessa I.I.Mechnikov National University

2019 – 2023 | Odesa, Ukraine

SKILLS

Programming Languages: Python | C/C++
| Rust | Java | Golang

Back-end & Databases: FastAPI | Flask | Django | Django Rest Framework | ClickHouse/Apache Doris | PostgreSQL | MySQL | MongoDB

Data Engineering & Orchestration: Apache Airflow | Celery | Apache Spark | Kafka | DBT | Data Lakes (Iceberg/Delta)

Cloud & DevOps: AWS (S3, Lambda, EC2, EKS, Glue) | Kubernetes | Docker | Terraform | Helm | GitHub+GitLab CI/CD

Machine Learning & AI: MLflow | TensorFlow | PyTorch | Scikit-learn | Natural Language Processing (NLP) | NumPy | Pandas | LangChain | DSPy

Observability: Prometheus | Grafana | Loki | Promtail

ORGANIZATIONS

Ciklum, Technical Mentor (Python)

Sep 2019 – Nov 2021 | Odesa, Ukraine

Guest lecturer and mentor to prepare junior-level developers to join the company.

- Lectured on the application of Python in software development.
- Conducted selection rounds and formed teams that can cover the needs of the projects. Trained 153 developers to work in a professional environment.