ALEKSANDRA KARPOVA

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Software Engineer

Software Engineer with expertise in Python programming and a proven track record of developing sustainable, production-ready distributed systems for industrial applications. Experienced in designing and implementing end-to-end data processing and machine learning pipelines, as well as scalable systems for real-time data processing. Recognized for creativity, critical thinking, strong collaboration skills, according to my colleagues, 'amazing vibes'!

Education

BSc. Artificial Intelligence   October 2022 - February 2026
University of Pavia

- Relevant Coursework: Machine Learning and Deep Learning, Statistical Learning, Computer Programming, Algorithms and Data Structures
- Samsung Innovation Campus participant (AI and IoT track)
- AIESEC International member: Vice President of the Outgoing Global Volunteer Team(24.25 term)
- AI-SEQ cohort (AI and Software Engineering and Quantum Computation) at QuLearnLabs participant - September-October 2025

Work Experience

Software Engineer   February 2025 - Present
OPTECS B.V.│Rotterdam, Netherlands (remote)

- Integrated classical machine learning models into distributed edge nodes for predictive control.
- Preprocessed time-series data to improve model input quality.
- Developed a Linux OPC UA adapter for a Windows-designed system.
- Deployed scalable ML-powered services with low-latency guarantees.
- Refactored 1,500+ lines of Python code to improve testing coverage.
- Built a test environment for system validation.
- Designed preprocessing pipeline for computer vision ML system.
- Improved system efficiency through fault detection and model-based optimization techniques.
- **Skills used**: Python, JavaScript, Scikit-learn, Linux, Docker, Git, Grafana, Prometheus, API REST

Data Science Intern   March 2021 - July 2021
SAS│Moscow, Russia

- Developed and optimized data processing scripts, achieving a 35% reduction in analysis time.
- Leveraged SAS Base and SAS Viya to ensure high accuracy in data insights.
- Contributed to the team's ability to quickly analyze unstructured datasets, facilitating faster decision-making.
- **Skills used**: Python, SAS Base, SAS Viya, Statistical Modeling

Skills

- **Programming Languages and Frameworks**: Python (primary), Java, Flutter, SAS Base, React, Flask, API REST, FastAPI
- **ML & AI**: TensorFlow, PyTorch, Scikit-learn, OpenCV, NLTK, Pandas, NumPy, rasterio
- **Databases**: MySQL, PostgreSQL
- **DevOps & Tools**: Docker, Git, Grafana, Prometheus, MLFlow
- **Operating Systems**: Linux, macOS(Darwin)
- **Languages**: Russian (native), English (C2), Italian (B1)
- **Soft Skills**: Critical Thinking, Communication, Team Collaboration, Problem Solving