ANNA KONOVALENKO, PhD

UK work authorization

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Data Scientist/Research Scientist with PhD in ML and software engineering experience. Demonstrated expertise of translating complex business constraints into end-to-end ML pipelines. Seeking challenging ML research projects that offer opportunities for accelerated engineering growth

EXPERIENCE

Research Scientist / PhD Candidate - Machine Learning 01/2020 - 09/2025
Molde University College, Norway

Conducted applied research combining machine learning with optimization to solve real-world logistics problems. Collaborated with industry partners to identify business constraints and deploy predictive models and authored 5 peer-reviewed first-author publications

- Built end-to-end ML pipeline for Norwegian logistics company to predict route deviations. Analyzed 20K+ historical routes, and evaluated 3 neural architectures (LSTM, CNN, Transformers). Achieved up to 19% improvement in prediction accuracy over baseline
- Created and developed adaptive parameter ML-based tuning system for an optimization algorithm, achieving 5% improvement over static configurations. Results validated through statistical significance testing
- Demonstrated through benchmark experiments that specialized MaxSAT solvers achieved 22% faster solving times compared to cross-domain approaches

Tech Stack: Python, PyTorch, NumPy, Pandas, Scikit-learn, SQL, Statistical Analysis, Jupyter Notebook, Hyperparameter Tuning, Model Evaluation, Cross Validation

Visiting Researcher - Machine Learning 06/2022 - 01/2023
Imperial College London, United Kingdom

- Developed reinforcement learning algorithm for real-time vehicle routing: analyzed impact of state space components through ablation studies, achieving 15% efficiency improvement over greedy heuristics

Tech Stack: Python, PyTorch, RL, MLP, Optimization Heuristics, Gym/Gymnasium

Software Engineer, OneReach.ai 12/2018 - 01/2020
OneReach.ai is a platform for designing, training, and deploying AI agents at scale

- Built automated AI bot pipelines on AWS using S3 and Lambda, creating scalable workflows that handled 20,000+ daily user interactions for enterprise clients
- Implemented custom bot components as reusable code libraries that enabled a 30% reduction in development time

Tech Stack: Python, JavaScript, AWS (Lambda, S3), NLP, RESTful APIs, CI/CD

Software Engineer, Panenco 09/2016 - 07/2017
Panenco is a software company specializing in B2B SaaS products and enterprise AI solutions

- Established responsive user interfaces for four scalable web applications, leading to a 10% boost in user satisfaction scores and improving overall application usability across different devices
- Engineered and deployed production-ready features within CI/CD pipelines, collaborating in cross-functional agile teams

Tech Stack: Python, JavaScript, SQL, Git, REST APIs

TECHNICAL SKILLS

Languages & Core Tools: Python, SQL, JavaScript, AWS

ML & Statistics: PyTorch, Scikit-learn, NumPy, Pandas, Hypothesis Testing, Regression, Classification, Time Series, Experimental Design

Specializations: Deep Learning (LSTM, CNN, Transformers), Reinforcement Learning, Operations Research, Optimization Algorithms

Development & Research: Git, CI/CD, Jupyter Notebook, LaTeX, Docker, Kubernetes

Certifications: ML in Production, Projector (model training, inference, serving, monitoring)

Leadership: Designed and delivered lectures for Machine Learning and Statistics courses (100+ students)

EDUCATION

Molde University College, Norway 08/2017 - 09/2025
PhD with topic: Advancing the Use of Machine Learning for Complex Optimization Problems
MSc with distinction in Logistics Analytics

Taras Shevchenko National University of Kyiv, Ukraine 09/2013 - 06/2019
BSc with distinction in Computer Science

SELECTED PUBLICATIONS

A. Konovalenko, L.M. Hvattum, K.A.H. Iversen (2025). Predicting Last-Mile Delivery Route Deviations Using Machine Learning. Published in *Expert Systems with Applications*.

A. Konovalenko, L.M. Hvattum, M.K. Msakni (2024). Using Machine Learning to Identify Hidden Constraints in Vehicle Routing Problems. Published in *Computers and Operations Research*.

Full publication list: scholar.google.com/citations?user=OV16JyQAAAAJ