

*Built and lead top-tier R&D teams, launching AI/ML solutions globally across industries,
Kaggle Master Top 14, published in Lancet, international math olympiads medalist*

EXPERIENCE

Careem (Dubai, UAE), Senior Machine Learning Engineer

March, 2023 - December, 2024

Super app with operations in over 70 cities, covering 10 countries across the Middle East, Africa, and South Asia regions

- Led the development and continuous enhancement of **Matching and ETA prediction systems** for food and grocery delivery
 - Launched **priority-based dispatching** reducing delivery time for clients by 2% and courier time spent by 2.5%. Achieved by modifying the Hungarian Algorithm's cost matrix construction stage and building the matching simulator replicating the entire matching backend
 - Proactively identified a **Fake GPS spoofing** problem that negatively affected delivery duration and couriers' experience. Designed the real-time algorithm to identify them resulting in a 93% decrease in affected orders (from 218k to 15k). This feature was well noted by the CEO and escalated to the VP of Ops
 - Designed a **Stage Splitter system** to address uncertainty during ETA prediction by segmenting delivery trips by couriers' GPS signals. Improved ETA accuracy by 10% (5-min window) by training similarity-based models tailored to each stage
- Led the **Courier Operating Model Transformation** from a decentralized network to an intra-zone system with stable shifts for couriers
 - Built an **end-to-end planning system**, including zone definition, accurate demand prediction, supply planning, and shift optimization
 - Applied to 35% of the fleet transformation improved the marketplace balance, resulting in \$1.5M in annual savings,

Checklens GmbH (Salzburg, Austria), Senior AI Researcher

March, 2021 - August, 2022

AI startup that uses computer vision for automation checkout for retail companies including IKEA, Netto, Lidl, etc

- Led the development of **Checkscan**, an AI-powered fraud prevention system deployed in IKEA and Netto
- As part of small R&D team I owned the **entire AI solution lifecycle**: from MVP to production deployment
 - Trained and deployed object detection and vectorization models, enabling real-time product recognition (15,000+ items)
 - Suggested innovative tracking approach: a two-stage tracking framework that combines a gradient-boosting method with a Graph Neural Network (GNN), leveraging geometric, appearance, and interaction features for robust tracking
 - Suggested a unique and computationally efficient permanent-based loss function for GNN optimization
 - Built systems to assess annotation quality, streamline labeling, and maintain dataset consistency, accelerating the data preparation process and improving the quality of trained models
 - Automated video ingestion, dataset and annotation task creation, model zoo fine-tuning, model conversion, and deployment enabling fast, efficient rollout in new stores and continuous updates across existing locations

Harrison.ai (Sydney, Australia), Senior AI Researcher

March, 2020 - January, 2021

Healthcare AI startup that uses computer vision and deep learning to create the next generation of X-ray imaging

- Built the training pipeline to prepare the model for the **Annalise CXR solution**, enabling the detection of over 120 chest X-ray pathologies:
 - Designed and trained a combined multi-task AI model integrating attribute detection, classification, and segmentation capabilities
 - Leveraging key innovations from my winning Pneumothorax Segmentation challenge solution, I introduced multiple advanced modeling and optimization strategies that significantly boosted accuracy and efficiency throughout the entire training pipeline.
- Integrated into 250+ Australian radiology clinics, the system has improved diagnostic accuracy by 45% and reduced radiologist workload by 20% of cases through automated reporting.
- Co-authored research published in The Lancet Digital Health demonstrating substantial improvement in radiologists' diagnostic accuracy across diverse clinical findings.

BTS Digital (Astana, Kazakhstan), Head of Artificial Intelligence

June, 2018 - March, 2020

Digital innovation arm of Eurasian Resources Group (natural resources holding, 75,000+ employees)

- Established the company's ML/AI function, driving innovative projects:
 - **Digital ID**: facial recognition system for identity verification with anti-spoofing and 2M+ verifications/month
 - **ASR service**: electronic government services call center automation (supporting mixed bilingual dialogues)
 - **Ainews**: AI-driven news aggregation platform with recommendations and duplicate removal
- Built the leading AI team in the region, defining vision and roadmap for strategic AI projects, and driving AI talent development through industry-academia collaboration, organizing Kazakhstan's first AI course and open research seminars

Past Experience Highlights

June, 2014 - June, 2018

- **Kazpost (Astana):** Implemented an Integrated Planning System, setting sales targets and compensation plans across 3,000+ branches, boosting annual revenue by 8%, [KZT 1.6B](#), [\\$5M](#). Achieved through time series forecast and performance-based branch clustering
- **Esculabs (Astana):** Created a computer vision-based quality control system for verifying fiber scanning (ultrasound and MRI) for the diagnosis and treatment monitoring of Chronic Hepatitis C
- **Yandex (Moscow):** Data Science internship in the Safe Search Department.

EDUCATION

Yandex School of Data Analysis (Moscow, Russia)

September, 2016 - May, 2018

Two-year data science and ML program with 5.4% admission rate and rigorous math olympiad-style entrance exam

- **Relevant coursework:** Mathematical Statistics · Machine Learning I-II · Bayesian ML methods · Large-scale ML Deep Learning · Reinforcement Learning · Natural Language Processing · Algorithms & Data Structures · Python

Moscow State University (Moscow, Russia)

September, 2009 - June, 2014

Top 50 in 2019 QS World University Rankings in Mathematics and Computer Science

- Specialist (MSc) in Applied Math & Computer Science

PUBLICATIONS AND AWARDS

- **Kaggle #14** out of 200,000 users, Competitions Master
 - Won #1 in [SIIM-ACR Pneumothorax Segmentation](#) (radiographic image segmentation) as a one-person team and was invited to [speak](#) at the conference 2019 C-MIMI (Austin, Texas) as a result
 - Won 3 gold (top 0.1%), and 6 silver medals in various competitions
- Bronze Medal in the [Asian Pacific Mathematics Olympiad](#)
- [Published](#) in **Lancet**, impact factor of 98.4, ranking it first in the "Medicine, General & Internal" category:
 - Effect of a Comprehensive Deep-Learning Model on the Accuracy of Chest X-Ray Interpretation by Radiologists: a Retrospective, Multireader Multicase Study", Aug. 2021

COMMUNITY SERVICE

DSMLKZ Community, Community Founder

September, 2017 - present

- Founded and leading Kazakhstan's largest [AI & ML community](#), fostering knowledge sharing and professional growth in AI/ML.
- Established in September 2017, DSML KZ actively shapes the AI ecosystem in Central Asia through a thriving network of community channels, media platforms, and [career resources](#).

TECHNOLOGIES

- Python: machine learning, optimization and deep learning frameworks, image, text and audio processing libraries