

## 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
  - Identified a **Fake GPS spoofing** problem that negatively affected delivery duration and couriers' experience. Designed the real-time algorithm to identify it leading to 93% decrease in affected orders. The 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 (driving/walking/idle) 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
  - The transformation was applied to 35% of the fleet and 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, improving profitability by 0.5%:
  - Trained and deployed object detection and vectorization models, enabling accurate real-time product recognition (15,000+ items)
  - Build a two-stage tracking model (Gradient Boosting & Graph Neural Networks), using geometric, appearance, and interaction features
  - Streamlined the pipeline, automating video ingestion, dataset and annotation tasks creation, model zoo fine-tuning, and deployment

**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
- 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.
- Results were published in The Lancet, proving that AI can improve radiologists' diagnostics 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 ML/AI function, launching **Digital ID** (facial recognition with anti-spoofing and 2M+ verifications/month), **ASR service** for electronic government services call center automation (supporting mixed bilingual dialogues), and **AI-driven news aggregation platform**
- 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** which has an 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

## TECHNOLOGIES

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

## COMMUNITY SERVICE

**DSMLKZ Community**, Community Founder September, 2017 - present

- Largest **machine learning community** in Kazakhstan with 7000+ members telegram group, offline and online events, **learning resources archive**, mentoring program, and a **job board**