ANNA KUCHKO
AI/ML RESEARCH SCIENTIST

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Skills

AI/ML: Machine Learning, Deep Learning, Reinforcement Learning, Imitation Learning, Conservative/Constrained Reinforcement Learning, Vision Language Models, Vision Language Action Models, Transformers, Computer Vision, Optimal Stopping, Time Series Prediction, Fault Prediction, Classification, Clustering, Computer Vision, Image Quality Prediction

Coding: Python, PyTorch, numpy, pandas, Scipy, SQL, PySpark

Professional Experience

UNIVERSITY OF WARWICK   COVENTRY, UK

PhD Researcher in Statistics and Machine Learning   *October 2021 – Present*
- Developing algorithms for solving Inverse Reinforcement Learning and Inverse Optimal Stopping problems in a "safe" manner using Imitation Learning-inspired methods with application to autonomous driving and intervention policies. Implemented Echo State Networks for solving Reinforcement Learning problems in highly stochastic environments. Worked with visual (images and video) and time-series data

Senior Graduate Teaching Assistant   *February 2022 – April 2024*
- Taught graduate and undergraduate level modules in the departments of Statistics and Computer Science: Artificial Intelligence, Foundations of Data Analytics, Introduction to Probability, Neural Computing, Statistical Laboratory I.

JOURNEO PLC   ASHBY-DE-LA-ZOUCH, UK

Machine Learning Scientist   *July 2024 – September 2024*
- Led a project on developing software for automatic image quality assessment and identification of incorrectly installed cameras from CCTV footage using machine learning techniques. Employed a wide variety of supervised and unsupervised methods for estimating image quality, artifacts and their potential causes, using Vision Transformers and classical machine learning approaches. Performed data analysis to extract useful statistics to identify causes of failure from recording devices health data.

VTB BANK   MOSCOW, RUSSIA

Quantitative Risk Manager – Data Science   *February 2020 – May 2021*
- Performed quantitative risks assessment process and behavioural modelling of loans prepayments and deposits withdrawals managing a risk of a 150 million dollars total loan book and 2.7 billion deposits portfolio using Python. Conducted EDA and statistical analysis of raw data. Efficiently utilised Pyspark to create ML pipelines used across Data Science team. Used MySQL for data retrieval from Impala and Hive.
- Developed quantitative perspective and retrospective tests for assessing hedge effectiveness for the hedge accounting purposes. Designed hedging strategies and an overall methodology in collaboration with other departments.
- Mentored School of Risk Management students.

MERCURY DEVELOPMENT LTD   SAMARA, RUSSIA

Business Analyst   *June 2019 – February 2020*
- Worked as a part of the scrum team, in an agile methodology with sprint cycles and daily stand-ups. Used Jira and Trello for task management and communicated directly with developers. Drafted specifications and user stories for OS and software applications on Custom Android devices from scratch. Made flowcharts in draw.io to communicate workflows with the development team.
- Analysed and clustered big data as a part of the EDA stage of databases migration project after two financial companies' merger. Used hierarchical and density-based clustering algorithms implemented in Python to identify similarities and patterns in financial plans. Visualized EDA results for presentation to the customer.

STRATEGY PARTNERS GROUP   MOSCOW, RUSSIA

Analyst A2   *March 2019 – October 2019*
- Conducted market sizing analysis for various industries, performed strategic and financial assessment of top-tier companies. Provided information support for strategic plans development for local governments. Prepared presentations for various purposes.

Education

MPhil/PhD in Statistics and Machine Learning *October 2021 – October 2025*
University of Warwick
Centre for Doctoral Training (CDT) in Maths & Stats

- **BSc in Statistics** *September 2017 – June 2021*
  Samara State University of Economics, Department of Statistics and Econometrics
  - GPA – 5.0 / 5.0
  - Bachelors' Thesis – "[Dynamic portfolio optimisation based on stock market network clustering](#)"
- **Legal Support of Economic Activity, Undergraduate university courses** *September 2017–December 2019*
  Samara State University of Economics, Extramural Department

Awards & Scholarships

- The Engineering and Physical Sciences Research Council (EPSRC) & The Department of Statistics University of Warwick PhD funding, October 2021 – October 2025, UK
- Nominal EY Scholarship for Future Business Leaders, March 2021, EY Russia
- Government academic scholarship for exceptional research activities granted for September 2018 – January 2019, February 2019 – August 2019, September 2019 – January 2020
- Government academic scholarship for excellent study results granted for February 2018 – August 2018, February 2020 – August 2020, September 2020 – January 2021

Courses & Certifications

- Data Engineering, GeekBrains, Github repository with coursework projects:
  https://github.com/annakuchko/DataEngineering
- Neural Networks and Deep Learning *deeplearning.ai, Coursera*
- Stochastic Processes *National Research University Higher School of Economics, Coursera*
- Probabilistic Graphical Models 1: Representation *Stanford Online, Coursera*
- Risk Management School graduate, Diploma of Excellence (1st place out of 161 students) *VTB Bank, Higher School of Economics, October 2019–December 2019*
- Organisational project management – Project: "Opening profitable stores for Megafon Retail" *Samara State University of Economics, December 2017 – May 2018*
- Marc Chagall Art School – Diploma with honours, Diploma work on architectural design – defended with excellent