# **OLGA SOROKOLETOVA**

#### **Machine Learning Engineer**

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Rome, Italy



### **WORK EXPERIENCE**

# Machine Learning Engineer CY4GATE

Oct 2023 - Oct 2024

Rome, Italy

- Conducted extensive research and designed a novel modular, scalable, and data-independent Natural Language Processing framework for Information Extraction from Cyber Threat Intelligence reports.
- Surpassed state-of-the-art in Named Entity Recognition (NER) within the cybersecurity domain.
- Introduced an advanced approach for Semantic Text Similarity (STS) using Cross-Encoders trained without annotated data.
- Contributed to the Attack Model Enrichment of the international Alnception project to enhance cyber defense operations. Project link: Alnception.
- Enhanced the functionality and performance of the company's Decision Intelligence platform product.
- Worked with taxonomies (Text Classification), Retrieval-Augmented Generation (RAG) systems, and Large Language Models (LLMs).

### **Workshop Publication**

O. E. Sorokoletova, E. Antonioni, and G. Colò, "Towards a scalable Al-driven framework for data-independent Cyber Threat Intelligence Information Extraction," in The First International Workshop on Generative AI for Textual Document Analysis, FLLM2024, 2024.

# Risk Analyst OTP Bank

Sep 2019 - Sep 2020

Moscow, Russia

- Automated the calculations of NPV using, driving operational efficiency.
- Performed statistical analysis on COVID-19 affected client segments to optimize loan issuance with minimal risk exposure.
- Analyzed complex creditworthiness data and developed a DLbased scoring model that improved accuracy, leading to a more reliable lending process.

# **EDUCATION**

M.Sc. in Artificial Intelligence and Robotics

#### University of Rome La Sapienza

**1** 2020 - 2023

Rome, Italy

Master's Thesis: Enhancing Robot Reliability for Health-Care Facilities by means of Human-Aware Navigation Planning.

Conducted in the RoCoCo (Cognitive Cooperating Robots) laboratory at the Faculty of Information Engineering, Informatics, and Statistics (DIAG) in collaboration with the LAAS-CNRS research institute.

Final Grade = 110/110 (GPA = 3.3).

### Publications

- O. E. Sorokoletova and L. locchi, "Enhancing robot reliability for health-care facilities by means of Human-Aware Navigation Planning," http://arxiv.org/abs/2409. 17131. 2023.
- O. E. Sorokoletova, L. Nicoletti, and L. Maglianella, "Planning Parking Maneuvers for a Car-Trailer Vehicle," *Sapienza*, vol. 1792507, pp. 1797464–1937430, 2022.

# B.Sc. in Applied Mathematics and Computer Science

M.V. Lomonosov Moscow State University

**2015 - 2019** 

Moscow, Russia

Bachelor's Thesis: **Deep Learning for Cryptocurrency Time Series Forecasting**.

Conducted within the Department of Mathematical Statistics and Probabilistic Theory at the Faculty of Computational Mathematics and Cybernetics (CMC).

Final Grade = 4.7/5.0 (GPA = 3.7).

#### Journal Article

• O. E. Sorokoletova and T. V. Zakharova, "Random Sampling Method for Cryptocurrency Market Time Series Forecasting," Systems and Means of Informatics, vol. 29, pp. 65–72, 4 2019.

# **TECHNICAL SKILLS**

### **Python Libraries** Deep Learning and Machine Learning: TensorFlow/Keras PyTorch/Fastai Scikit-Learn Natural Language Processing: Transformers/Sentence Transformers NLTK | spaCy | re Computer Vision: OpenCV PIL Data Science: Pandas NumPy SciPy Apache Spark Data Visualisation: Matplotlib Seaborn **Development Tools** Microsoft Azure Docker Git FastAPI

Robotics Kit

ROS MATLAB PDDL Prolog NAOqi OMPL OpenSim

## **Other Programming Languages**

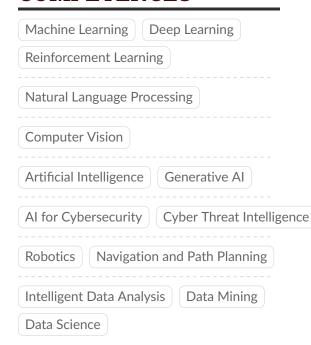
C/C++ SQL R SAS Assembly x86

# **LANGUAGES**

Android Studio

Russian
English
Italian

### **COMPETENCES**



## **SOFT SKILLS**

Problem Solver

Collaborative Team Player

Committed and Hard-working

Methodical and Analytical Thinker

Continuous Self-Improvement Oriented