MARIIA MAKAROVA

Machine Learning Engineer

Communicative and motivated MSc-1 student studying Advanced Computational Science in Skoltech. Possess a huge desire to grow as a Machine Learning Engineer.

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Area of expertise

- **Backend**: NestJS
- **Frontend**: Javascript, ReactJS, Redux, Material UI, CSS, HTML5, ES6, webpack, SASS, etc.
- **Tools**: GIT, BitBucket, npm, yarn, Jira, Figma, linux
- **Languages:** Javascript, Python, R
- **Skills:** PostgreSQL, jupyter, seaborn, pandas, numpy, scipy, keras, tensorflow, sklearn, opencv
- **Russian:** Native
- **English**: Advanced / C1

Achievements

- **Galaxy Coding Hack 2021** Winner
- Participated in **2021 Conference of Russian Young Researchers in Electrical and Electronic Engineering**
- **Digital Breakthrough Hackathon 2020** Winner
- Finished extra course **"Product Analytics"** provided by Mail.Ru
- Participated in the **RAIFHACK hackathon**, 2020
- Participated in SCRUM game at the **online festival 2020 Raiffeisen DGTL Fest**
- A finalist of online **VTB hackathon** in 2020

Projects

Pump It Up
Data Mining the Tanzania Water Table

Coordinated the implementation of a project to predict the functionality of water pumps in Tanzania by using ML models.
Tools: pandas, numpy, seaborn, sklearn, logreg, KNN, random forest, gradient boosting, GridSearchCV.

Semantic image segmentation for drones using U-net
Obstacle and free-space detection model for drones

Developed multiclass model for drone collision avoidance project, gathered and labeled custom data to classify each object on the image.
Tools: keras, tensorflow, opencv, unet, python3

Measuring distance between drone and AprilTag
Algorithm for finding a drone station for landing

Implemented CV algorithms to determine the distance between flying drone and any item with AprilTag.
Tools: ROS, opencv.

An universal DHCPLOCK service
DHCP server and client with Scapy and python3

Studied and developed service that ensures the security of active hosts by detecting and neutralizing rogue DHCP servers on the local network and runs on the Linux operating system.
Tools: python, scapy, logging,

Work Experience

Frontend developer
Novilab Mobile | November 2019 - February 2020

Developed a full stack web application, a multilingual platform for E-Commerce, using React and Redux, Semantic UI, webpack.

Frontend developer
National Research Nuclear University MEPhI (Moscow Engineering Physics Institute) | June 2020 - January 2021

Developed a CTF Dashboard, a website for MEPHI in order to monitor and collect scientific works of undergraduate and graduate students, and a CTF Dashboard for MEPhI students using React, Redux, Material UI, webpack.

Academic History

Skolkovo Institute of Science and Technology (Skoltech)
Institute of Mathematics and Computer Science
Master of Science in Advanced Computational Science, 2021-2023

GPA: 4.0/5.0

Relevant Courses: Intro to Data Science, Scientific Computing, Path Planning in AI, Intro to Computer Vision, Numerical Linear Algebra, Machine Learning, Tensor Decompositions and Tensor Networks in AI.

National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)
Institute of Computer Systems and Technologies
Bachelor of Informatics and Computer Engineering, 2017-2021

Thesis: Methods of Detecting and Neutralizing Potential Rogue DHCP Servers
GPA: **4.4/5.0**

Publications

- published one research paper "**Methods of Detecting and Neutralizing Potential DHCP Rogue Servers**" in IEEEXplore