

Oleksandr Boiko

• MACHINE LEARNING ENGINEER •

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Experience

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Paris, France

MACHINE LEARNING ENGINEER

02/2020 - present, 4 months

- Developed an end-to-end recommendation system for visual search/match of luxury clothing alternatives from fast-fashion retailers on Python, Flask, and JavaScript.
- Built ML pipeline to measure similarity of item embeddings generated by ResNets utilising Tensorflow, Keras.
- Collected a dataset of 190k fashion items from online stores through distributed web-scraping.
- Deployed app to production on Google Cloud Platform, optimized ML system, and server configuration, resulting in a memory reduction by 40% and cost reduction by 30%.

SIB Labs, University of Eastern Finland

Joensuu, Finland

MACHINE LEARNING RESEARCHER

01/2019 - 10/2019, 10 months

- Created a deep learning-based pipeline in Python, Keras, and TensorFlow to segment disease areas from hyperspectral images of oral cavities, reached IoU segmentation score up to 0.92.
- Developed a real-time data generator for hyperspectral image augmentation; image segmentation and visualization tools for hyperspectral images based on Mask R-CNN, Unet, Scikit-Learn, and cloud computing.

Olympus Corp., Imaging Technology Dept

Tokyo, Japan

RESEARCH TRAINEE

06/2018 - 08/2018, 3 months

- Applied deep learning algorithms for medical image segmentation, tuned and optimized the network's segmentation performance by 15% using Python and PyTorch.
- Implemented an advanced medical image annotation pipeline using eye-tracking and speech recognition, evaluated the system's performance, speed, fatigue level in comparison to manual annotation.

Vilmorin France

Saint-Etienne, France

INDUSTRIAL PROJECT

07/2017 - 12/2017, 5 months

- Built a system for the automatic detection of a color checker in a natural environment with 96% accuracy under uncontrolled light conditions in Matlab, awarded as the best-proposed solution.
- Designed color correction algorithms applying polynomial regression and color space transformations to exclude the effect of the camera and illuminant, improved color correction accuracy to 91%.

Education

MSc in Applied Computer Science | Erasmus+ Joint Master Degree COSI

France, Spain, Finland

DEGREE MOBILITY: UNIVERSITY JEAN MONNET, FRANCE; UNIVERSITY OF GRANADA, SPAIN; UNIVERSITY OF EASTERN FINLAND

Sept. 2017 - Sept. 2019

- **Courses:** machine/deep learning, computer vision, computer science, spectral imaging, color science
- Erasmus+ Joint Master Degree scholarship holder (top 5% applicants)
- Awarded 3 Master's degrees in 2 years

Taras Shevchenko National University of Kyiv

Kyiv, Ukraine

APPLIED PHYSICS, MATHEMATICS, COMPUTER SCIENCE, DATA ANALYSIS, SIGNAL PROCESSING, STATISTICS

Sept. 2012 - Jun. 2018

- BSc in Applied Physics and Nanomaterials, National Scholarship Holder
- MSc in Applied Physics and Nanomaterials, National Scholarship Holder, Diploma with Honours, GPA 3.8/4.0

Skills

Programming: Python (NumPy, Pandas, Matplotlib), MATLAB, R, SQL

ML/DL: PyTorch, Keras, TensorFlow, FastAI, Scikit-Learn, OpenCV

Tools: Git, Docker, Flask, Cloud (GCP, AWS), Big Data (Hadoop, Spark ML, Kafka)

Languages: English: professional, French: basic, Ukrainian, Russian: native

Courses

2020: Apache Spark by Udacity: Hadoop, HDFS, MapReduce, PySpark, Spark SQL/DataFrames, Spark ML

2019: Deep Learning, a 5-course specialization by deeplearning.ai: CNN, GAN, RNN, NLP(LSTM), Embeddings

Competitions

2019: Mars Emergency Challenge by NASA - 1st place at 2 competitions (out of 2) [🔗 proj link](#)

- Designed a remotely controlled robotic device to map the area and to find the shortest route between the objects
- Led multinational team of 5 people with different scientific background during 6 months

2018: AI-driven customer interactions by SAP, Junction 2018, Helsinki [🔗 proj link](#)

- Developed a conversational bot that is capable of processing and understanding speech, taking orders and providing real-time AR experience (trying on glasses/hats with a webcam).

2018: 2nd place for a Tech Race Hackaton by Junction 2018, Joensuu

Publications

2019: "Deep learning for Dental spectral image analysis", Color and Imaging Conference, awarded "Best Student Paper First Runner-up"