Oleksandr Boiko

Machine Learning Engineer

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Education

07/2017 - 07/2019 *France, Spain, Finland*
MSc Erasmus+ Joint Master Degree COSI (COlour in Science and Industry).
Awarded 3 Master's degrees by University Jean Monnet, France; University of Granada, Spain; University of Eastern Finland, Finland
Courses: machine/deep learning, computer vision, computer science, computational imaging, color science
Erasmus+ Erasmus Mundus Joint Master Degree scholarship holder

07/2016 - 06/2018 *Kyiv, Ukraine*
MSc in Applied Physics and Nanomaterials, *Taras Shevchenko National University*.
Courses: applied physics, high technologies, computer modeling, data analysis
4.76 / 5.0 GPA, Diploma with Honors

05/2012 - 06/2016 *Kyiv, Ukraine*
BSc in Applied Physics and Nanomaterials, *Taras Shevchenko National University*.
Courses: applied physics, calculus, computer science, data analysis, statistics
4.2 / 5.0 GPA

2019 - 2020
Online education, *Coursera.org, Fast.ai, Udacity.com*.
Deep Learning, a 5-course specialization by deeplearning.ai
Practical Deep Learning for Coders, v3 by fast.ai
Data Structures and Algorithms by Google

Experience

03/2020 - Current *Paris, France*
Open Source Project Author, *Find For Me*.
- Developed a client-server web app that recommends alternatives for desired luxury apparel measuring the similarity of item embeddings generated by ResNets using Python, Tensorflow, Keras, Flask, and JavaScript.
- Deployed app to production on Google App Engine, optimized ML system, and server configuration, resulting in a memory reduction by 40% and cost reduction by 30%.
- Applied web scraping to collect data from various online stores resulting in a dataset of 190k fashion items.

01/2019 - 10/2019 *Joensuu, Finland*
Research Intern, *SIB Labs, University of Eastern Finland*.
- Built a deep learning-based pipeline in Python, Keras, and TensorFlow to segment disease areas from hyperspectral images of oral cavities reaching 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, and cloud computing.

06/2018 - 08/2018 *Tokyo, Japan*
R&D Intern, *Olympus Corp., Imaging Technology Dept*.
- 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.

07/2017 - 12/2017 *Saint-Etienne, France*
Industrial Project, *Vilmorin France*.
- Built a system for the automatic detection of a color checker in a natural environment under varying illumination conditions with an accuracy of 96% awarded a prize as the best-proposed solution.
- Developed a color correction algorithm to exclude the effect of the camera and illuminant; evaluated the color correction accuracy.

Skills and Interests

Research publications
Deep learning for Dental spectral image analysis, 27th Color and Imaging Conference, 2019
CIC27 Best Student Paper First Runner-up (among approx. 200 participants)

Competitions
AI-driven customer interactions by SAP, Junction 2018, Helsinki
2nd place for a Tech Race Hackaton by Junction 2018, Joensuu

Technical skills
Programming Languages: **Python**, MATLAB, R, JavaScript
Data Science: **Deep Learning** *(U-nets, ResNets)*, CV and ML algorithms
Libraries & Tools: **PyTorch, Keras**, TensorFlow, FastAI, Sklearn, Pandas, OpenCV, Git, Docker

Languages
Fluent English, native Ukrainian, Russian, basic French

Hobbies
Photography, Fashion, and Cognitive sciences