



Oleksandr Boiko

MACHINE LEARNING AND DEEP LEARNING SCIENTIST

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I know how to apply and combine knowledge from different fields to make machines help people.

Experience

SIB Labs, University of Eastern Finland

Joensuu, Finland

RESEARCH TRAINEE

Jan. 2019 - Aug. 2019

- Applied deep neural nets (Mask R-CNN, Unet) and techniques (image augmentation, transfer learning, dimensionality reduction) to hyperspectral images of oral cavities for disease segmentation
- Achieved up to 92% segmentation accuracy
- Developed a real-time data generator for hyperspectral image augmentation; an image segmentation and visualization tool for hyperspectral images based on Unet and cloud computing
- Published a first-author scientific paper which was awarded 2nd place for "Best student paper award" (among approx. 200 participants)

Olympus, Imaging Technology Dept.

Tokyo, Japan

R&D INTERN

Jun. 2018 - Aug. 2018

- Applied deep learning algorithms for medical image segmentation, tuned and optimized network's segmentation performance
- Implemented a new pipeline for advanced medical image annotation using eye tracking
- Evaluated the system's performance, speed, fatigue level and compared it to manual annotation

Vilmorin France

Saint-Etienne, France

INDUSTRIAL PROJECT

Oct. 2017 - Dec. 2017

- Built a system for the automatic detection of a color checker in a natural environment under varying illumination with an accuracy of 94%
- Applied color correction to exclude the effect of the camera and illuminant; evaluated the color correction accuracy
- The project was awarded a prize as the best-proposed solution, suitable for use in the industry

Education

MSc Erasmus+ Joint Master Degree COSI (COlour in Science and Industry)

Sept. 2017 - Sept. 2019

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

- **Program subject area:** machine/deep learning, computer vision, image processing, spectral imaging, computer science, color science
- Awarded 3 Master's degrees by University Jean Monnet, France; University of Granada, Spain; University of Eastern Finland, Finland
- Erasmus+ Erasmus Mundus Joint Master Degree scholarship holder

MSc in Applied Physics and Nanomaterials, High technologies with Honours

Sept. 2016 - June 2018

TARAS SHEVCHENKO NATIONAL UNIVERSITY OF KYIV, UKRAINE

- **Program subject area:** applied physics and nanomaterials. National scholarship holder

BSc in Applied Physics and Nanomaterials

Sept. 2012 - June 2016

TARAS SHEVCHENKO NATIONAL UNIVERSITY OF KYIV, UKRAINE

- **Program subject area:** applied physics and nanomaterials. National scholarship holder

Extracurriculars

Publications: **Deep learning for Dental spectral image analysis**, 27th Color and Imaging Conference (CIC27) - Paris, France 2019

Certificates: **Deep Learning, a 5-course specialization**, by deeplearning.ai on Coursera

Volunteering: **Mentor of Computer Science courses at GoIT**, mentoring two groups of students (approx. 24 people in total)

Hackathons: **2nd place for a TechRace Hackaton** by Junction 2018

Skills

Programming languages: Python, Matlab, R

Tools: Keras, TensorFlow, PyTorch, Scikit-learn, Numpy/Pandas, OpenCV; Deep Learning Toolbox, CV Toolbox for Matlab

Additional tools: Linux, Jupyter, Google Colab, Docker, Git, LaTeX, Adobe Photoshop

Languages: Ukrainian, Russian (Native), English (C1), French (A2)

Hobbies

- Travelling and photography (some of my shots can be found here: 500px.com/alexanch)
- Fashion and modeling (worked as a model for national designers – runways and photoshoots)
- Enjoy books, music, and functional training