Olga Moskvyak

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Machine Learning Engineer | PhD Candidate

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Summary

I am a Machine Learning Engineer specializing in Computer Vision.

I conduct research as a Computer Science PhD Candidate at QUT Centre for Robotics, Australia. My research is in the field of computer vision with the focus on deep learning with limited annotated data.

My passion is creating real business applications powered by machine learning. I have experience in building and deploying deep neural networks for applications in wildlife conservation.

Work experience

Sep 2020 – present: ML Engineer, contractor (remote)
WildMe/Wildbook, Portland, Oregon, USA

Achievements:

- implemented and delivered AI models for wildlife detection and identification,
- integrated the solution as a plugin to the existing infrastructure.

Technologies: Python, PyTorch, OpenCV, open-source GitHub
Source code: orientation network, re-identification network

Jul 2018 – Nov 2019: Tutor (Advanced AI course)
Queensland University of Technology, Brisbane, Australia

Duties included:

- prepared course materials and assignments,
- presented lectures and tutorials on building AI models using Tensorflow,
- marking assignments and exams.

Oct 2016 – Sep 2017: Research Assistant, part time
Central Queensland University, Brisbane, Australia

Achievements:

- implemented the multi-objective optimization algorithm and the genetic algorithm in Java for the problem of generating a nutritionally balanced diet,
- delivered a prototype of a smart dietary system that generates daily meals schedules based on dietary requirements.

Jun 2009 - May 2014: SAP ERP Consultant, full time
Several consulting companies based in Moscow, Russia

Achievements:

- analyzed and designed business processes in logistics for clients in energy and gas mining industries,
- customized SAP system to tailor for business requirements,
- prepared project documentation,
- liaised with stakeholders and key end-users.

Education

- Ph.D in Computer Science, Queensland University of Technology, Australia, 2021 (expected)
- M.S. in Information Systems, Central Queensland University, Australia, 2016
- B.S. in Mathematics, Lomonosov Moscow State University, Russia, 2009

Skills

Technical skills:

- proficiency in Python including PyTorch, Keras, OpenCV, SciPy, Numpy, Pandas
- deployment of AI models and web applications (AWS, MS Azure, Docker)
- practical experience in building, deploying and testing ML models in a product development context using software engineering best practices

Research skills:

- designing and building AI models for computer vision tasks
- contribution to research submissions in top AI conferences
- writing research papers and technical reports

Soft skills:

- communication with non-technical stakeholders
- presentation skills

Publications

Olga Moskvyak & Frederic Maire (2017). **"Learning geometric equivalence between patterns using embedding neural networks."** In Proc. International Conference on Digital Image Computing: Techniques and Applications (DICTA).

Olga Moskvyak, Frederic Maire, Asia O Armstrong, Feras Dayoub & Mahsa Baktashmotlagh (2021). **"Robust re-identification of manta rays from natural markings by learning pose invariant embeddings."** arXiv preprint arXiv:1902.10847.

Olga Moskvyak, Frederic Maire, Feras Dayoub and Mahsa Baktashmotlagh. (2020). **"Learning Landmark Guided Embeddings for Animal Re-identification."** In Proc. Winter Conference on Applications of Computer Vision Workshops.

Olga Moskvyak, Frederic Maire, Feras Dayoub, Mahsa Baktashmotlagh. (2021). **"Keypoint-aligned embeddings for image retrieval and re-identification."** In Proc. Winter Conference on Applications of Computer Vision (WACV). pp. 676-685.

Olga Moskvyak, Frederic Maire, Feras Dayoub & Mahsa Baktashmotlagh (2021). **"Semi-supervised keypoint localization."** In Proc. International Conference on Learning Representations (ICLR).