ANASTASIIA USMANOVA

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Work permit in France (Visa APS)

EXPERIENCE

Research Institute "AEROCOSMOS"

Computer Vision Researcher

Oct 2019 – Aug 2020 Moscow, Russia

- Data collection, image processing, investigating **Computer Vision** techniques (**Super Resolution**)
- Designed a DL model to increase the resolution of satellite images with the use of **Generative Adversarial Networks** (PSNR: *25.09* $\rightarrow$ *26.84*, SSIM: *0.74* $\rightarrow$ *0.81*)

Laboratoire d'Informatique de Grenoble (LIG)

Data Science Researcher

Feb 2021 – July 2021 Grenoble, France

- Designed a framework to train ML models across multiple devices where data is continuously updated (**Federated Learning, Continual Learning**)
- Developed a distillation-based algorithm for **Human Activity Recognition** classification task in Federated Learning scenario (Server acc.: 71% $\rightarrow$ 80%, forgetting: 1.0 $\rightarrow$ 0.2)

EDUCATION

Institut polytechnique de Grenoble / Université Grenoble Alpes

Industrial and Applied Mathematics (MSc)

Sept 2020 – Aug 2021 Grenoble, France

Specialization: Data Science
Average Grade: 15/20

Moscow Institute of Physics and Technology

Department of Applied Mathematics and Informatics (MSc)

Sept 2021 – Aug 2022 Moscow, Russia

Specialization: Artificial Intelligence Systems
Average Grade: 4.7/5

Department of Control and Applied Mathematics (BSc)

Sept 2016 – Aug 2020 Moscow, Russia

Specialization: Applied Mathematics and Physics
Average Grade: 4.6/5

PUBLICATIONS

- A. Usmanova, F. Portet, P. Lalanda, G. Vega "Federated Continual Learning through distillation in pervasive computing" – (8th International Conference on Smart Computing, Helsinki, June 2022)
- A. Usmanova, F. Portet, P. Lalanda, G. Vega "Federated Learning and catastrophic forgetting in pervasive computing: demonstration in HAR domain" – (18th Workshop on Context and Activity Modeling and Recognition, Pise, March 2022)
- V. Ignatiev, I. Matveev, A. Murynin, A. Usmanova, V. Tsurkov "Increasing spatial resolution of panchromatic satellite images based on generative neural networks" – (Journal of Computer and Systems Sciences International, 2021)

SKILLS

- Python (Sklearn, PyTorch, TensorFlow, Pandas), FastAPI, Flask, Docker
- SQL, Tableau, Excel, LaTeX
- English (fluent), French (intermediate)
- Machine Learning, Deep Learning, Data Visualization, Web Scraping, Computer Vision, Anomaly Detection

HONORS & AWARDS

- Persyval Master Scholarship, given to only to 10 students per year (2020-2021)
- Increased State Academic Scholarship, given to less than 10% of faculty students (2018 - 2020)
- Moscow Government Scholarship "For outstanding achievements in learning" (2016)

Other:

- Open Machine Learning Course (mlcourse.ai) - in the top-20% (2019)
- Hackathon "Phystech.Genesis" (2018, silver medallist)
- Gold medal "For outstanding achievements in learning", State award for school graduation with excellent grades (2016)

EXTRA-CURRICULAR ACTIVITIES

- **Volunteer** in a summer school (2018, Czech Republic)
- **Organizer** of an international summer camp in Baikal (2017 - 2018)
- Children tutor of Physics and Maths (2016-2018, Russia)
- Sports tourism (2017, 3 adults level)
- **Group leader** in a children camp (2016, Russia)