Shamil Iakubov : https://github.com/limash Email : yakubov.sha@gmail.com

Machine Learning experience

- **TF2 reinforcement testcases development**: Python3 TensorFlow2 reinforcement algorithms implementation: different versions of DQN, categorical DQN, off policy actor-critic algorithms with dueling networks, n-step update, off policy policy gradient correction and other improvements. It uses RAY to distribute calculations and DM Reverb as a data buffer. Some versions of it include sparse nets and residual convolutional nets.
- **Kaggle Geese competition Gym environment wrapper development**: A Gym wrapper around Kaggle Geese environment to sample experience efficiently with several reward systems and observation representations to use with the TF2 reinforcement testcases.
- **Online courses**: Deep Learning specialization, Machine Learning, Bayesian Statistics.

Other experience

- **Helmholtz-Zentrum in Geesthacht** Geesthacht, Germany
  PhD student *2017 - 2020*
  - **Research**: Study 1. A modelling study of the Wadden Sea biogeochemistry features providing Jupyter notebooks with methods for easy reproducibility. Study 2. A modelling study about controlling factors of the atmosphere - seawater carbon dioxide exchange in the area of the North Sea, in a Jupyter notebooks format. Both studies are computational heavy and based on biogeochemical models implemented in Python3 and Fortran2003.
  - **Biogeochemical and marine ecosystem models development**: Building and optimization of biogeochemical models.
  - **Data analysis**: Visualization and processing of oceanographical data from the North Sea.
- **Institute of Oceanology** Moscow, Russia
  Junior Researcher *2013 - 2017*
  - **Participation in development of BottomRedOxModel**: Responsobilities: Add a computanionaly efficient pH calculation; migrate from Fortran77 to Fortran2003; migrate from Visual Studio solutions to CMake; add Linux support.
  - **Sympagic-Pelagic-Benthic-Model development**: A 1-dimensional biogeochemical tracers transport model. The model solves numerically a system of 1-D transport equations in Cartesian coordinates for three domains (ice, water column, and sediments) in the ocean. The dynamics include diffusion and advection part. It is implemented in Fortran2003.
  - **Waves Groupiness in the Baltic See study**: The study uses cluster analysis to classificate waves to groups and then uses Fourier and Wavelet analysis to study properties and features of these groups

Recent publications

- Yakubov, S.; Protsenko, E. Alkalinity Generation in the Coastal Area, the Case of the Wadden Sea. Preprints 2021, 2021020036 (doi:10.20944/preprints202102.0036.v1)
- Yakushev, E.V.; Wallhead, P.; Renaud, P.E.; Ilinskaya, A.; Protsenko, E.; Yakubov, S.; Pakhomova, S.; Sweetman, A.K.; Dunlop, K.; Berezina, A.; Bellerby, R.G.J.; Dale, T. Understanding the Biogeochemical Impacts of Fish Farms Using a Benthic-Pelagic Model. Water 2020, 12, 2384. (doi:10.3390/w12092384)
- Yakubov, S.; Wallhead, P.; Protsenko, E.; Yakushev, E.; Pakhomova, S.; Brix, H. A 1-Dimensional Sympagic–Pelagic–Benthic Transport Model (SPBM): Coupled Simulation of Ice, Water Column, and Sediment Biogeochemistry, Suitable for Arctic Applications. Water 2019, 11, 1582. (doi:10.3390/w11081582)

Education

- **Moscow State University** Moscow, Russia
  Specialist, Oceanography *2003 – 2008*