Ilia Ilmer

New York, NY

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Skills

Programming Languages: Python (PyTorch, pandas, scikit-learn, Tensorflow, JAX, numpy, sympy, Flask), C/C++, Matlab, Go
Scientific Computing: Machine learning, deep learning, numerical computations, computer algebra, computational statistics
Tools: Git, Bash and ZSH, SQL, AWS (CloudFormation, CodePipeline, Athena, Cloudwatch, DynamoDB)

Work Experience

The City College of New York, City University of New York — *New York, NY, USA*
ADJUNCT LECTURER — *Jan. 2020 – Present*
- **Courses Taught:** Statistics for Computer Science
- Designed fundamental probability theory curriculum including lectures, practice, and exams.

Next Caller, Inc. — *New York, NY, USA*
SOFTWARE ENGINEER INTERN (DATA SCIENCE TRACK) — *May 2020 – Dec. 2020*
- Implement unsupervised and semi-supervised learning algorithms in Tensorflow
- Implement fraud and outlier detection algorithms
- Deploy machine learning models using AWS
- Contribute implementations to internal data science tools

CUNY Tutor Corps — *New York, NY, USA*
COMPUTER SCIENCE TUTOR AT COLUMBIA SECONDARY SCHOOL — *July 2019 – May 2020*
- Collaborate with the teacher on curriculum development
- Help students develop most optimal problem solving strategies

Projects

Projects — *2018 – PRESENT*
PERSONAL PROJECTS AND OPEN SOURCE CONTRIBUTIONS
- Built a numpy-based machine learning library imitating PyTorch(URL: github.com/iliailmer/numpy-learn)
- Created a PyTorch-based 3-class image classifier application (URL: github.com/iliailmer/plane-bike-car-classifier)
- Implemented deep harmonic classifier in PyTorch (ex.: github.com/iliailmer/harmonic_network)
- Open source contributions: Scikit-Image
- Implemented in C++ the Adelson-Velski-Lendis tree (AVL-tree) data structure with the operations that pertain to AVL-trees, such as tree rotations, search, etc.

Machine learning — *2018 – PRESENT*
KAGGLE COMPETITIONS CODE
- Cloud Segmentation Challenge: https://github.com/iliailmer/kaggle_clouds
- Alaska Image Steganalysis (submitted as a class final project) github.com/iliailmer/ml_fina_project
- Kaggle Ion Switching: github.com/iliailmer/kaggle_ion_switching

Education

Graduate Center, City University of New York — *New York, NY, USA*
PHD IN COMPUTER SCIENCE, GPA 4.0 / 4.0 — *Sept. 2018 – PRESENT*
- **Research Interests:** Algorithms and Software for Computer Algebra Systems, Machine Learning and AI.

University of Calgary — *Calgary, AB, Canada*
MS IN MATHEMATICS, GPA 4.0 / 4.0 — *Sept. 2016 – July 2018*
- **Publication**: Braverman, E. & Ilmer, I., *On the Interplay of Harvesting and Various Diffusion Strategies for Spatially Heterogeneous Populations*, Journal of Theoretical Biology, 2019
- **Award**: *Teaching Excellence Award* by Pacific Institute of Mathematical Sciences, 2018

Moscow Engineering and Physics Institute — *Moscow, Russia*
BS IN APPLIED MATHEMATICS AND COMPUTER SCIENCE, GPA 3.5 / 4.0 — *Sept. 2012 - July 2016*