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Michael Solotky

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Education

BSc in Applied Mathematics and Computer Science, IV year

- **Lomonosov Moscow State University** September 2015 – June 2019
  Faculty of Computational Mathematics and Cybernetics, GPA 4.89 / 5.0

Continuing with the Master's degree afterwards, expected graduation in 2021

Experience

- **Voice technology department of Yandex** June 2018 – October 2018
  Software Engineering Intern (Back-end development)
  - Implemented several methods of probability smoothing and their modification in language models for Automatic Speech Recognition
  - Conducted experiments on quality measurement to find the best model among all
  - Implemented an optimal algorithm for constructing n-gram language models in C++ using MapReduce, **which decreased wall time by at least 3 times and slightly increased quality measure comparing to the baseline**
  - Wrote a complete framework with a set of operations available from CLI

Projects

- **BigARTM (C++ Boost/STL, Protobuf, Travis, AppVeyor)** January 2017 – present
  Open Source library for topic modelling that supports multiple regularization
  github.com/bigartm/bigartm
  - Developed a tool for parallel calculation of pairwise word statistics such as frequency of mutual occurrence, PMI in text corpus of unlimited size
    Wikipedia full-text processing takes 6 hours on octa-core intel core i5 8th gen
  - Responsible for parsing of input data

Other experience

- **Primality test (C++)**
  Implementation of Miller test for deterministic checking of large numbers for primality as part of the Kaspersky Lab information security course
  Wall time on prime numbers of length 100 is about 4 seconds
  github.com/MichaelSolotky/sandbox/tree/master/Cpp_old_tasks/Primality_tests
- **ML (NumPy, Scipy)**
  Implementation of various ML algorithms from scratch
  github.com/MichaelSolotky/sandbox/tree/master/ML

Technical Skills

- **Used at work**: C++, Python, C, Bash
- **Basic knowledge**: SQL, Assembly language
- **Technologies**: MapReduce, Protobuf, C++ Boost, CMake, Make, SciPy, Scikit-learn, NumPy, Pandas
- **Deep Learning frameworks**: PyTorch, TensorFlow
- **Tools**: Git, Subversion, UNIX/Linux, Travis, AppVeyor, LaTeX