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Michael Solotky

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## EDUCATION

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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

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- **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

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- **BigARTM (C++ Boost/STL, Protobuf, Travis, AppVeyor)** January 2017 – present  
Open Source library for topic modelling that supports multiple regularization  
🌐 [github.com/bigartm/bigartm](https://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

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- **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](https://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](https://github.com/MichaelSolotky/sandbox/tree/master/ML)

## TECHNICAL SKILLS

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- **Used at work:** C++, Python, C, Bash
- **Basic knowledge:** SQL, Assembly language
- **Technologies:** C++ Boost, CMake, Make, Protobuf, MapReduce, SciPy, Scikit-learn, NumPy, Pandas, Pytorch
- **Tools:** Git, Subversion, UNIX/Linux, Travis, AppVeyor, L<sup>A</sup>T<sub>E</sub>X