Alexey Medveshchek

Software Engineer (C++, Python)

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Summary

- 10+ years of software development.
- Go, C++, Python, classical algorithms.
- Fast prototyping, can lead projects from concept to release.
- Can implement prototype by scientific articles.

Specialization

- Software Engineering
- Research & Development
- Natural Language Processing
- Distributed Computing

Experience

Jan 2018 — Present
www.joom.com, /startup/
Backend Software Engineer
(Go, Linux, AWS, gitflow, youtrack, scrum, pager duty occ.)

Joom is a startup, a fast growing international e-commerce platform.
- **Jan 2019 – Present**: Logistics Team
  Integration with 3rd party logistics partners.

- **Jan 2018 – Dec 2018**: Payments Team, PCI DSS compliance
  - Integration with 3rd party partner – Qiwi payment provider for Russian buyers.
  - Core architecture of "CashFlow" – the system for distributed accounting of all the money flows in any direction in order to calculate bills/invoices as well as to provide a platform for income/expense analytics.
  - Accounting system for the Logistics Team.

Jul 2016 — Dec 2017
Sberbank Technologies, www.sberbank.ru
Lead Software Engineer *(Python, Linux)*
Machine Learning and NLP team

Projects and achievements:
- Accurate classifier of income emails (~250K emails/month).
  (sklearn, pandas, numpy, nltk)
- Telegram ChatBot, internal QA system for employees, went to prod.
  (gensim, sklearn, nltk)
- Search engine: searching crawled courts by arbitrary address.
  (scrapy, nltk, context-free grammars)
- Scoring platform. System for calculating credit scores for 20 mln clients on Hadoop cluster of ~50-nodes.
  Implemented for neighbor department, went to production.
  (python, Hadoop)
- Documents comparator. Proof of Concept, part of the other project.
  (python, context-free grammars)

Skills

- **Platforms**: Linux
- **Languages**: Go (2 years), C++ (8 years), Python (3 years), Java (6 months with Hadoop).
- **DBMS**: MognoDB, MySQL
- **Scripting**: bash, standard CL-toolset for data processing (awk, sort, wc, etc.)
- **Algorithms & data structures**: strong understanding and implementing in practice.
- **ML**: sklearn, numpy, scipy, pandas, ipython.
- **NLP:** regular expressions, context-free grammars, sentence splitting, gensim, nltk, POS-tagging, SyntaxNet.
- **Distributed**: HDFS, Hadoop.
- **Paradigms**: OOP, Design Patterns.
- **Development**: Continuous Integration, TDD.
- **Tools**: gprof, gcc, gdb, CMake, autotools, boost, Google Test, Boost Test.
- **Formats/Protos:** XML, JSON, YAML, Protobuf, SOAP, HTTP, MIME, SMTP.
- **VCS**: git, svn, mercurial (hg).

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Sep 2012 — Jul 2016
The "Go" Search, go.mail.ru
Lead Software Engineer *(C++, Python, Linux)*
Query processing team (~50 mln queries / day)

Responsibilities and achievements:
- Developing of queries' classifiers and labelers for search engine *(C++)*.
- Search Autocomplete project (5K requests per second, from scratch to prod & maintain):
  - Core algorithms, ranking, synonymizing, spell-checking, spam filtration, deploying and rolling-back, monitoring and reporting.
  - Indexer. Building and deploying of DB: daily (based on search queries) and hourly (news), using 300-nodes Hadoop cluster.
  - Evaluation. Designing and implementing of A/B-testing system.
  - Achievements:
    - Increasing from ~50% to ~65% of queries/clicks fraction and several other metrics of users' satisfaction (in contrast to previous autocompleting system).
    - Decreasing load to search servers (less paraphrasing of queries).
  - *Stack: C++, Python, Hadoop, HBase, Aerospike, Nagios, Graphana, XGBoost, bunch of libs and heuristics*.

Oct 2007 — Jun 2012
InfoWatch, infowatch.com
2010 – 2012: Senior Developer *(C++, Linux)*,
2008 – 2010: Developer,
2007 – 2008: Developer Intern

Teammate of development of Data Leakage Prevention system
(the "Traffic Monitor" DLP)

Responsibilities:
- Develop and maintain the code of the main product;
- Develop text analyzers.

Achievements. Developed several core algorithmic libraries:
- Content Analysis Server (multi-threading server for text analyzing).
- Named Entities detector. Library that searches hundreds of regexps at a time in $O(N)$ *(C++)*.
- Antiplagiarism detector: effective fuzzy text search *(C++)*.
- Languages and encodings classifier *(C++)*.
- "Auto-Parser" (FSM, light analogue of boost::spirit), *(C++)*.
- Parsers of HTTP, MIME and SMTP based on "Auto-Parser".

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Aug 2005 — Feb 2006
Atis, Ltd., http://pascom.ru
Developer (Delphi)
- Teammate of Password Commander's team (v. 2.3 – 2.9);
- Developing of visual components and logic.

Education (2003 — 2008)

Moscow State Technology University "STANKIN"
Master of Science in Information Technologies

Publications

The Search Autocomplete From the Inside (russian, «Поисковые подсказки изнутри»)
https://habrahabr.ru/company/mailru/blog/267469/

Languages
- English — Technical
- Russian — Native

Current location: Moscow, Russia

Work permit: Visa sponsorship needed in case of relocation.