# ALYONA ANTONOVA

Software Engineer

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## Experience

**Serokell**                                                                                    **August 2020 – June 2023**

*Haskell Software Engineer*

- Improved the optimizer of smart contract's code in Morley: fixed the former's independency of contract's instruction parse tree by researching the optimizer's associativity; added several-staged optimizing.
- Developed VS Code extension feature: implemented frontend and backend components for handling lambda functions in Michelson Debugger.
- Improved networks config updating: added web scraping Python script to a project's CI.
- Added feature to ignore external references in markdowns to Xrefcheck repository documentation verifier.
- Wrote educational articles for the blog about base Haskell typeclasses, e.g. Foldable and Functor.

**ITMO University, Computer Technologies Department**                                            **Autumn 2020**

*Teaching assistant of Functional Programming course*                                            *Saint Petersburg, Russia*

- Reviewed students' homeworks.

## Projects

**Algorithmic Transparency on Search Engines Research** | *Python, Selenium, Nginx, R*     **January 2021 – June 2021**

- Devised monitoring system in keeping with adversarial perception principle, that interfaces with ten search engines; performs web scraping with Selenium WebDriver and Python; collects robots' data by logging Nginx.
- Analysed collected robots' records, e.g. compared the search engines' page ranking algorithms with known ones.

**Linear Programming Solver** | *Python, NumPy*                                                  **April 2021**

- Implemented Simplex Method to solve the Linear Programming Problem, utilizing NumPy for linear algebra operations.

**Parser Generator** | *Haskell, Alex, Happy*                                                    **February 2020**

- Developed program, that takes the definition of language tokens and rules of LL(1) grammar and generates matching parser.

## Education

**ITMO University, Computer Technologies Department**                                   **September 2017 – June 2021**

*Bachelor*                                                                                       *Saint Petersburg, Russia*

## Technical Skills

**Languages**: Haskell (industry); Python, Go (solid); C++, Java, Typescript, SQL (basic)
**Technologies**: Linux, Git, PostgreSQL (solid); Docker, Yandex Cloud, Selenium WebDriver (basic)
**Other Skills**: Functional Programming, DSL, DAP (industry); Backend Development, Algorithms and Data Structures, CI/CD (solid); Cryptography, DBMS, Concurrent Programming (basic).

## Extracurricular

**Haskell eXchange 2022: In-Person Conference**                                                  **December 2022**

*Speaker*                                                                                        *London, UK*

- Presented "How to Choose a Haskell Web Framework" – overview and comparison of web tools (Servant, Yesod, IHP) from the beginner's point of view, using simple TODO-list application with custom logger middleware as an example.

**Yandex Summer School, Go Backend**                                                   **June 2023 – August 2023**

*Student*                                                                                        *Belgrade, Serbia*

- Online lectures and homeworks – Software Architecture, DBMS, (Load) Testing, Asynchronous Programming, CI/CD.
- Offline project – Generating video from users' photos
  * Added OAuth 2.0 authorization using Yandex ID.
  * Integrated external APIs and 3-party libraries, e.g. similar photos detection, to the project.
  * Took part in designing database, configuring CI/CD, and business logic implementation.