Mariia (Mary) Feofanova

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EDUCATION

Moscow Institute of Physics and Technology — Moscow, Russia
Master's degree in Computer Science — *Sept. 2020 - Aug. 2022*

The Yandex School of Data Analysis — Moscow, Russia
Big Data Infrastructure — *Sept. 2019 - Aug. 2022 (Present)*

Moscow Institute of Physics and Technology — Moscow, Russia
Bachelor of Applied Mathematics and Computer Science — *Sept. 2016 - Aug. 2020 (Present)*
- **Thesis**: Verification of synchronization primitives and concurrent data structures

EXPERIENCE

JetBrains — St. Petersburg, Russia (remote)
Research Intern, Programming Languages and Tools Lab — *July 2020 - Aug. 2020 (Present)*
`C` `LLVM`
- Verifying concurrent C programs under weak memory model with GenMC model checker.
- Found bug in mimalloc (Microsoft allocator) using it.

Google — London, UK
SWE Intern, Android App Compat team — *July 2019 - Sept. 2019*
`GoLang` `Java` `Android` `C++` `Protobuf` `SQL`
- Analyzed statistics about Android API usage and wrote design document about its utilization.
- Integrated statistics into Android source code presubmit checker: now it warns if pull-request changes will break popular apps.

Moscow Institute of Physics and Technology — Moscow, Russia
Teaching Assistant, "Theory and Practice of Concurrent Computing" course — *Feb. 2019 - Present*
`C++` `x86 Assembly`
- Holding seminars, reviewing homework, improving test infrastructure.

JetBrains — Moscow, Russia
SWE, RubyMine team — *Oct. 2018 - Feb. 2019*
SWE Intern, RubyMine team — *Jul. 2018 - Aug. 2018*
`Java` `Ruby` `Ruby on Rails`
- Developed new intentions, inspections and refactoring options (e.g. introduce parameter) for RubyMine IDE.
- Improved Rails-specific refactoring system: model fields, associations support.

PROJECTS

Model checker for concurrent programs [Bachelor thesis] — Moscow, Russia
`C++` — *Nov. 2019 - May 2020*

Wrote model checker that tests concurrent C++ programs. Key feature: code doesn't need to be translated to formal language (like TLA+ / +Cal). Verified my work on non-trivial examples: ABA bug inside lock-free cache for Yandex allocator (finds bug 16 times faster than +Cal) and bug inside implementation of Executors framework.

InclickDB — Moscow, Russia
`GoLang` `Python` `Grafana` `Graphite` `ClickHouse` `InfluxDB` — *May 2019*

Investigated possible solutions to a problem of migrating from InclickDB to ClickHouse for a monitoring system with tagged metrics. Created tag support in existing solution by teaching myself Golang and contributed to open-source: pull-request.

ACHIEVEMENTS

Photo Lab Live Challenge: Go Viral or Go Home - I place [Hackathon] — Moscow, Russia
`Python` `web.py` `Heroku` — *Nov. 2018*

Developed backend for photo filter that changes clothes style, having only 48 hours was able to quickly learn python framework and to deploy MVP.

PROGRAMMING SKILLS

- **Languages**: C++, GoLang, Java, Python, TLA+, +Cal.
- **Technologies**: SQL, Git, LaTeX, Docker.
- **Knowledge**: Algorithms, Data Structures, Concurrent Computing, Distributed Systems.