Matvey Sheremeev

SOfTWarE ENGiNEEr, BErLiN, GErMaNY

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**Skills**

**Programming** Kotlin, Java, Python, C++/C, Rust , Bash, Haskell

**Technologies** Git, Docker, Spring, AWS, Kubernetes, Android, Gradle, gRPC, Jenkins, TensorFlow, Pandas

**Skills** Algorithms&Data Structures, System Design, Coroutines, Parallel programming, Linear Algebra, Statistics, Numerical Methods

**Languages** English, Russian, German (actively learning)

# Work Experience

**JetBrains** *Berlin, Germany*

Software Engineer | Kotlin, Ktor, Coroutines, Gradle *Apr 2023 ‑ Aug. 2023*

* Led NP‑complete dependency resolution algorithm development, creating documentation and relatable knowledge base, as a result – boosted dependency resolution algorithm efficiency by an impressive 20%
* Designed a versatile testing interface for build data gathering across 30 projects, offered optimization insights
* Conducted extensive research on dependency resolution problem, meticulously gathering relevant information from a wide range of papers
* Experimented with various server protocols, and optimization techniques to enhance data downloading
* Continuous Integration Pipeline, pull requests, code reviews, load/stress testing, unit/integration/e2e testing

**Aeronavigator** *St.Petersburg, Russia*

Android Developer | Java, Spring, Android Studio, Gradle *June 2022 ‑ Feb. 2023*

* Developed a comprehensive mobile application for pilots, providing seamless access to essential documents, schedules, and real‑time com‑ munication capabilities with authorities and airport personnel
* Enhanced server‑client communication protocols, optimizing data exchange and system responsiveness with protocol optimization, reducting latency and cahcing strategies
* Conducted extensive code refactoring, prioritizing safety and security

# Education

**Constructor University Bremen (ex Jacobs University)** *Bremen, Germany*

Bachelor of Science in Computer Science and Software Engineering

**National Research University Higher School of Economics** *St.Petersburg, Russia*

Bachelor of Applied Mathmatics and Computer Science

# Projects

**3D‑reconstruction app | Java, Android Studio, OkHttp, Python, OpenGL** *NRU HSE University*

Mobile app that identifies objects in photos and transforms them into intricate 3D models *Feb 2022 ‑ May 2022*

* Designed and implemented the core functionality of the app, including the code architecture for all app screens
* Implemented interfaces for client/server communication, enabling real‑time collaboration for 3D model reconstruction
* Implemented a system for efficiently saving and restoring the application’s state and critical data, data caching

**Evolution (Desktop game) | C++, gRPC, SFML** *NRU HSE University*

The desktop game inspired by board game ”Evolution” *Feb 2021 ‑ May 2021*

* Developed game logic and established a code architecture following the Model‑View‑Controller (MVC) pattern
* Engineered both server and client‑side functionalities with gRPC to enable online multiplayer gameplay
* Ensured code quality by implementing unit testing for correctness

**SSVEP BCI classification | Python, PyRCCA** *NRU HSE University*

* Implemented three algorithms for selecting the target stimulus by spectra, CCA and FBCCA
* Achieved classification accuracies across all algorithms, depending on the window size, with the highest accuracy 0.98

*Oct 2022*

**Git | Java, Jackson** *NRU HSE University*

* Implemented all core features of the Git: init, add, rm, checkout, log, reset, commit with command line interface
* Implemented unit test coverage for different test cases

*Apr 2022*

**Other projects | Java, C++/C, Haskell, Python, TensorFlow** *NRU HSE University*

* **Signal classification:** Neural network that classifies 40 different signals according to MFCC and MEL spectrogram
* **Tic‑tac‑toe:** The console game with a testing framework build with C macroses to streamline test development
* **Vector:** The own implementation of C++ std::vector with strong exception safety guarantee

*Sep 2020 ‑ Dec 2022*

* **Lambda calculator:** The Haskell library for resolving ß‑reduction in lambda terms and assisting in the resolution of problems of their aß and ß equivalence
* **BMP processing:** The application for BMP image download, cropping and rotation