Oleg Bobrov

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Education

Jacobs University of Bremen **Sept. 2022 – June 2023**
Bachelor of Computer Science *Bremen, Germany*

Relevant Coursework:
ML, Kotlin, Database internals, Parallel programming, Mathematical Statistics

National Research University Higher School of Economics **Sept. 2020 – June 2022**
Bachelor of Applied Mathematics and Computer Science *St. Petersburg, Russia*

Relevant Coursework:
C++, Java, Algorithms and Data Structures, Calculus, Linear Algebra, Functional Programming

Experience

JetBrains | *Kotlin, Kotlin Compiler, Fuzzing, Vert.x* **Nov. 2022 – Aug. 2023**
Research intern *Munich, Germany*

- Redesigned and reimplemented the existing **Kotlin compiler fuzzer** as a loosely-coupled system to support easier extension, experiments and evaluation
- Added support for the Kotlin/Native compiler and implemented klib-specific transformations to discover problems with ABI of evolving libraries
- Revealed and reported over **15 new vulnerabilities** using Kotlin fuzzer

Huawei | *C++, KLEE, gRPC* **Feb. 2022 – June 2022**
Research intern *St. Petersburg, Russia*

- Developed a **static code analyzer** for C/C++ based on KLEE (symbolic execution engine)
- Result represented in SARIF format, showing a full stack trace of a possible error with the initial values, which would cause this
- On tested projects showed **10 times more** mistakes than PVS-studio and **8 times more** mistakes more than CppCheck, however it's more time-consuming

Projects

Implementation of the board game Quoridor with a bot | *C++, Qt*

- Developed the GUI board game Quoridor for 2 players
- Players can play against each other or against bot working with **MiniMax algorithm**
- Achieved the **search depth of 4** using **alpha-beta pruning** with time of calculations less than **1 second** on my computer

Cooperative party game Code-team | *C++, Qt, winsock*

- Code-team is a local cooperative multiplayer game challenging peoples' reaction and communication
- Developed Code-team in the team of 3 students as a part of a first-year course project
- Designed and implemented the game architecture and logic between the server and players using thread safe queues

Technical Skills

Languages: Kotlin, Java, C++, C, Python
Technologies/Frameworks: Spring, Vert.x, Qt, SQL, KLEE, Git, CMake