Thomas Aprelev

C/C++ Software Engineer

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Proficiency

- Wrote code in C (fluent) and C++ (rusty).
- Built code with CMake, Make, and MSBuild.
- Compiled code with MSVC, GCC, and Clang.
- Tested code with Google's googlemock and benchmark.

Education

2010 — 2016   BS & MS in Computer Security   *at BMSTU*

- Graduated with honours and perfect GPA.
- Majored in Cryptography and Applied Mathematics.
- Had degree verified and evaluated by WES, #4045139.

Experience

2015 — 2019   Full-time Software Engineer   *at Infotecs JSC*

- Reengineered the back-end implementation of both national and international cryptographic mechanisms:
    - symmetric: block ciphers, modes of operations, MACs;
    - asymmetric: elliptic curves, digital signatures, key exchanges, encryption schemes;
    - auxiliary: hash functions, HMACs, KDFs, PRFs, PRNGs, key wrapping algorithms.
- Ensured high performance by utilising SIMD instructions sets and hand-written assembly for critical code.
- Applied SOLID principles to develop readable, maintanable and scalable code:
    - introduced abstract interfaces for aforementioned mechanisms,
    - enclosed implementation specifics within private APIs,
    - implemented abstract functional and conformance tests.
- Enabled support for wide range of compilers and operating systems.
- Implemented sanity, integration, regression, and performance tests.
- Established flexible CI & CD cross-building chains with reproducible dependencies resolution.

Miscellaneous

- Developed contest, one-of-a-kind framework for data-driven testing.
- Added run-time tests skipping to googletest.
- Fixed multiple bugs in Apache Ivy.