

Links

- › www.yannic.xyz
- › github.com/Yannic
- › www.linkedin.com/in/yannicbonenberger

Languages and Technologies

Strong C++, Java, JavaScript, Algorithm Design, gRPC
Gets by in Python, Objective-C, Go, Haskell, Compilers, Distributed Systems, Computational Linguistics, Statistical Learning

»»» Education**M.Sc. Computer Science** (2018/10 - present)

Technische Universität Kaiserslautern

- › Specialized in compilers and programming languages and the theoretical concepts behind them, including concurrency models, finite and infinite languages and their representation as finite automata or logic
- › Master's thesis: Automatic Memory Management for Cross-Language Shared Objects
- › Expected date of graduation: September 2020

B.Sc. Computer Science (2015/10 - 2018/09)

Technische Universität Kaiserslautern

- › Completed several classes focused on algorithm design, algorithm analysis, and data structures

»»» Experience**Research Assistant** (2018/09 - present)

German Center for Artificial Intelligence (DFKI GmbH)

- › Created a highly-optimized C++ library for feature-recognition in images, improving runtime performance by approximately 25% by using vector instructions if supported by the target platform
- › Simplified CMake-based build of a multi-platform C++ application, added support for Clang-based sanitizers (ASAN, MSAN, TSAN, UBSAN), and reduced average compilation time by 10%
- › Added support for macOS and iOS to in-house Augmented Reality framework

Teaching Assistant (2019/04 - 2020/03)

Technische Universität Kaiserslautern

- › Revised class project for a course on compilers and language processing tools, focusing on improving debuggability of generated machine code by generating debug information in DWARF format from the AST
- › Tutored the lecture "Grundlagen der Programmierung (Foundations of Programming)"

»»» Projects**Bachelor Thesis**

- › Created a Web-Based Augmented Reality application running in modern Desktop and Mobile browsers using WebAssembly, consistently achieving similar frame-rates as native applications
- › Published scientific paper and presented at 15th International Conference on Virtual Reality and Augmented Reality, EuroVR 2018: https://doi.org/10.1007/978-3-030-01790-3_2

Class projects

- › Designed a network-based game in Java and ensured our group of five students meets all deadlines
- › Built a Kakuro solver in Python using linear algebra and heuristics, decreasing the number of mispredicted fields by 80% compared to the best solver from previous years
- › Lead a four-person team to implement a Compiler for a simplified version of Java

Open Source Software Projects

- › Proposed replacing native Protobuf rules of Google's Bazel build system as the first ruleset completely with Starlark and lead the design, implementation, and community outreach throughout the whole process
- › Implemented and shipped several features related to Service Workers in Chrome and their W3C spec
- › Discovered, reported, and fixed security vulnerabilities in Chrome and Firefox: CVE-2018-5179