

Robbert Haarman  
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## SKILLS

**Programming Languages:** Python, Ruby, C, Rust, assembly (x86, AMD64, ARM, MIPS), C++, PHP, Java, Perl, Common Lisp, JavaScript, SQL, HTML, XML, and CSS. Some OCaml and Haskell.  
**Operating Systems:** Various GNU/Linux distributions, previous experience with OpenBSD.  
**Standards:** POSIX API and utilities, wrote a number of HTTP clients and servers and e-mail handling utilities.  
**Natural Languages:** Fluent in English and Dutch.

## PROFESSIONAL EXPERIENCE

- Software Engineer - Google** - <http://google.com/> September 2016 - present
- Added support for ThinLTO to the lld-link linker.
  - Implemented distributed ThinLTO for Chrome.
  - Co-maintainer of Rust and C++ toolchains for ChromeOS.
- Software Engineer - Facebook (now Meta)** - <http://facebook.com/> October 2011 - September 2016
- Developed and deployed a symbol server and a gdb extension to debug binaries without debug information and source code present on the machine.
  - Implemented function instrumentation in Clang.
  - Worked on tools for native code developers, including the Buck build system and its internal predecessor.
  - Helped develop, deploy, and maintain a tracing system for distributed systems.
- Software Developer - TriOpSys** - <http://www.triopsys.nl/> September 2007 - June 2011
- Helped deploy a new information system at all police departments in the Netherlands. Responsible for interoperability with other systems at multiple organizations.
  - Developed high-performance, memory-efficient XML readers and XML writers to process large volumes of XML under real-time constraints.
  - Helped design and implement multiple traffic data processing applications for the Dutch department of transportation.
  - Participated in the requirements analysis, design, and implementation of a new Climatological Information System for the Royal Netherlands Meteorological Institute (KNMI).
- Webmaster - Verdonck, Klooster & Associates** - <http://www.vka.nl/> June 2000 - December 2001
- Redesigned and re-implemented the company's website using PHP, XHTML, and CSS and performed regular maintenance and frequent updates.
  - Developed a web interface to the MySQL database used to manage mailing lists.

## EDUCATION

- Master of Science in Computer Science - University of Twente** September 2003 - January 2007
- Thesis: *Ahoy: A Proximity-Based Discovery Protocol*. Describes the design and implementation of an efficient, decentralized service discovery protocol for mobile ad-hoc networks, based on attenuated Bloom filters.
  - Designed and implemented a simple programming language and compiler.
  - Performed a short research project on forward error correction as an alternative to retransmits for achieving reliable transmission.
  - Implemented a SPIN-like model checker.
- Exchange - University of California, Davis** January 2002 - June 2002
- Implemented a lottery scheduler in the MINIX 2.0 kernel.
- Bachelor of Arts in Sciences and Humanities - University College Utrecht** September 2000 - May 2003
- Designed a method to represent a Java-like object model in SQL.
  - Implemented an e-commerce protocol.

## SOFTWARE I WROTE

**The Home Micro project:** designs and software for an 8-bit microcomputer that can be built at home using parts that are currently in production.

**The Voodoo Compiler:** a compiler for the Voodoo programming language, a thin abstraction over the native instruction set and calling conventions.

**The Deadbeef Random Number Generator:** a dead simple yet useful pseudorandom number generator.

**Micrornd:** A pseudorandom number generator specifically designed for 8-bit microcomputers.

**Ahoy:** an efficient, decentralized service discovery protocol for mobile ad-hoc networks (part of my Master's thesis).

**Mailvisa:** an early Bayesian spam filter with good precision, recall, throughput, and memory usage at the time.