

Robbert Haarman
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SKILLS

Programming Languages: Python, Ruby, C, 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, some Spanish and German.

PROFESSIONAL EXPERIENCE

Software Engineer - Google - <http://google.com/> September 2016 - present

- Worked on Clang and LLVM.

Software Engineer - Facebook - <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 Voodoo Compiler: a compiler for the Voodoo programming language, a thin abstraction over the native instruction set and calling conventions.

Antimony: programming language and set of libraries for the development of programming language implementations (early development, but self-hosting).

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

muhttpd: a simple web server supporting HTTP, HTTPS, static pages, CGI scripts, and handlers based on MIME type.

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.