

# ROBERT KRAHN

SOFTWARE ENGINEER & RESEARCHER



## TECHNICAL PROFICIENCIES

- Languages** JavaScript / TypeScript, Common Lisp, Smalltalk, Python, C, Rust, Go
- Frameworks /** Angular, React, node.js, lively.next, QT, Tensorflow, deeplearn.js, OpenCV, Emacs,
- Environments** Squeak/Pharo, SBCL, ECL, LispWorks
- Databases** MariaDB, PostgreSQL, CouchDB, SQLite, Neo4j, SAP HANA
- Methodologies** Design of self-sustaining systems, Object-oriented programming, Functional programming, Machine learning, Data exploration & science, Open-source project management



## EXPERIENCES

- Mar 2019  
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April 2018
- **Software Engineer**  
Google Mountain View, CA, USA
- Tooling & prototyping for the Google Assistant
  - Applying machine learning techniques to improve human / computer interaction.
- April 2018  
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Oct 2017
- **Independent software development consultant**  
Krahn Labs San Francisco, CA, USA
- Providing software architecture and development services.
- Oct 2017  
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May 2016
- **Senior researcher**  
Y Combinator Research San Francisco, CA, USA
- Designed and implemented the lively.next personal programming environment that is now an open source framework and used by startups for application prototyping and as a user interface library. [lively-next.org](http://lively-next.org)
  - Developed an architecture for a modular live programming environment that facilitates program integration and mashup creation.
  - Created a user interface system that supports programming-by-example techniques based on direct manipulation and change tracking.
- May 2016  
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Jul 2012
- **Senior developer and researcher**  
Communications Design Group, SAP Palo Alto, CA, USA
- Research and development of programming tools supporting program comprehension and debugging.
  - Implementation of a peer-to-peer messaging system for remote development tools.
  - From scratch implementation of an IDE for the Clojure programming language ([cloxp](http://cloxp)) that facilitates live programming and innovative debugging techniques.
- Jun 2012  
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Oct 2011
- **Software engineer**  
Zendesk Copenhagen, Denmark
- Design and implementation of a modular JavaScript front-end architecture for help desk applications with a Ruby-on-Rails backend. Special emphasis on extensibility and customizability by end-users.
- Sep 2011  
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Oct 2010
- **Research assistant, Ph.D. candidate**  
Software Architecture Group, Hasso Plattner Institute Potsdam, Germany
- Industry cooperation: Created a web-based development platform for prototyping and rapid development of business applications and mashups using JavaScript and the Sun Labs Lively Kernel. In cooperation with the SAP Palo Alto Research Center. My work contributed to the SAP OpenUI5 project that is now the default framework for web user interfaces at SAP.
  - Research and teaching, software development tooling, context-oriented programming, and modularity.
  - Design and development of a meta-circular and VM independent JavaScript parser, interpreter, and instrumentation engine for implementing a debugger and supporting language experiments.
- Mar 2009  
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Aug 2008
- **Software engineer (internship)**  
Sun Microsystems Laboratories Menlo Park, CA, USA
- Implemented a programmable wiki in the Sun Labs Lively Kernel for collaborative online app development.



## EDUCATION

- 2010  
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2005
- **M.Sc., IT Systems Engineering**  
Hasso Plattner Institute University of Potsdam, Germany
- M.Sc. Thesis: Lively Wiki - A Development Environment for Creating and Sharing Rich Web Content (Grade "Outstanding" - 1.2), Published 5 peer-reviewed publications
  - B.Sc. Thesis: Mapping Semantic Units between Squeak and Subversion

## CONTACT INFO

- ✉ robert@kra.hn
- 🌐 robert.kra.hn
- 📄 github.com/rksm
- 🐦 twitter.com/robertkrahn

## PORTFOLIO AND PUBLICATIONS

A list of my past projects, research publications, and talks can be found at <https://robert.kra.hn>.

The source code of this document can be found at [git.io/vNpB8](https://git.io/vNpB8).