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Damien Engels

Enthusiastic Hacker

Education

March-Sept. 2016	**Stanford University**	*Master Thesis*
September 2016	**Ecole Polytechnique Fédérale de Lausanne** GPA: 5.40 / 6.0	*Masters Degree in Computer Science*
Aug. 2012-May 2013	**Carnegie Mellon University** GPA: 3.77 / 4.0	*Exchange Student*
July 2013	**Ecole Polytechnique Fédérale de Lausanne** GPA: 5.63 / 6.0	*Bachelor Degree in Computer Science*

Core Experience

March-Sept. 2016

Hacking on Delite: Enhanced Loop Fusion and Tooling

Stanford Pervasive Parallelism Lab

Master thesis project. Integrated improved optimizations in the Delite Compiler Architecture framework. Demonstrated speedup benefits of upto 7.46x. Created new tools to tackle debugging challenges unique to the Delite architecture.

Sep.-Dec. 2015

Scala.js improvements

EPFL Programming Methods Laboratory

Optional master semester project. Working with a partner, ported the Scalameter microbenchmarking framework to Scala.js, the Scala to JavaScript compiler. Then, using the acquired knowledge, added several optimizations to the Scala.js optimizer.

Feb.-June 2015

DevSearch

Code Search Made Better

In a team of 10 people, implemented a search engine for source code that accepts code snippets as input. Extracted 440 milion different features from 535GB of github data (70 milion source files). Written in scala, optimized the search engine response time from minutes to seconds.

Sept.-Dec. 2014

Improving C++ Virtual Calls Protection in the Code-Pointer Separation Mechanism

Dependable Systems Lab

Master semester project. Modified the clang C++ compiler and built an llvm pass that allows to enforce validity of virtual table pointers at run-time with no memory access and thus very low overhead (1–5%).

Feb.-July 2014

Symbolic Execution Based Testing

Cisco Systems

Designed and implemented tools based on the S2E platform and integrated them into Cisco's tool chain and development process. Measured the benefit of white-box fuzzing for Cisco's products. Contributed to the S2E Plugins.

Jan.-May 2013

Operating Systems Project

Worked with a partner to create a small Linux-like kernel with virtual memory and process scheduling. Uncovered concurrency and memory bugs to create a robust final product. Managed a large code base (9 KLOC) using Git.

Technical Skills & Languages

Programming	Scala, C, Java, C#, bash, python, C++, JavaScript, Lua, Perl	Fluent	French, English
Skills	Compiler Construction, Reactive Programming, Systems Programming, Web Development, Big Data Analytics	Basic	Italian, German

Additional Experience

Current

Google
Software engineer

June-Sept. 2015

Microsoft
Software engineer internship — SharePoint Authentication and Authorization
Responsible for collecting and displaying telemetry about user scenarios in the cloud. Developed internal tools to facilitate creation and deployments of monitors that track the system's health.

Aug.-Sept. 2014

SwissMediaPartners AG
Software engineer
Responsible for the design and implementation of a web service. Implemented the REST API and web administrative console. Used and got familiar with an extensive number of web development tools (play framework, bootstrap, JavaScript, CoffeeScript, less, sbt)

Awards

Feb. 2015 First place at Start up Weekend Lausanne
Sept. 2013 Excellence Fellowship for Master's Studies at EPFL
May 2013 Dean's List of the School of Computer Science at Carnegie Mellon University
July 2010 Mathematics and Applied Mathematics Distinction at Gymnase de Nyon

Extra-Curricular Activities

MusicBot (Work in progress) — Exploration of web technologies through experimentation. Scala.js, WebSockets, actor programming, Play Framework, Spotify's APIs, oAuth2, MaterializeCSS, React.

Student assistant — Information, Computation, Communication — Compiler construction
Information Science — Discrete Structures — Information technology project

Rowing — Club d'Aviron Nyon (3rd place in 8+ Junior at the Swiss Championships)
Carnegie Mellon Varsity Crew (2nd place in 4+ at the Head of the Ohio)

Student Council — Masters Class delegate and Vice-President of CLIC
(Association des étudiants en informatique et communications)

HC^2 — Organization of one of Switzerland's largest algorithmic contests.

Personal Data

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