Felix Mulder

Computer Science Engineer

CONTACT

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BORN

16 Oct, 1990

EDUCATION

Research Fellowship
Languages and Programming
Methods Laboratory
EPFL, Switzerland
03.2016-05.2016

Master of Science
Computer Science Engineering
Lund University, Sweden
2011 - 2016

Foreign Exchange Year
2008 - 2009
Japanese High School
Ikubunkan Yumei Gakuen,
Tokyo

LANGUAGES

Swedish native
English full professional
Japanese elementary

WORKING EXPERIENCE

09.2017-Present	**Klarna Bank AB**	Stockholm, Sweden

Team Lead, Lead Engineer

Leading teams that develop capabilities for interledger transactions and banking infrastructure on a modern banking platform developed using functional languages and cloud technologies.

Teaching functional programming in Haskell/Scala to Klarna's engineers and serving as an adviser to various teams on Scala and functional programming related solutions.

08.2016-09.2017	**École Polytechnique Fédérale de Lausanne**	Lausanne, Switzerland

Compiler Engineer, Release Manager for the Scala 3 compiler

Implemented the Scala 3 REPL, featuring lots of modern features like tab-completion, syntax highlighting and more.

Implemented semantic error reporting to allow for amazing error messages that tell you what went wrong, offer fixes and give concrete suggestions using your own code as example.

Wrote a documentation compiler - and enabled it to be much more than just creating API reference. It is a full-blown static site generator, where you can cross reference between code and documentation; which makes sure that you both cater to your users and contributors - without duplication.

As release manager, I implemented a release strategy, based on Rust's train model. I also gave several talks on Scala 3, kept the community engaged via workshops and hackathons.

05.2017-07.2017	**Google Summer of Code**

Mentor for Scala Organization

Mentoring student on improvements to documentation compiler. Including type-safe templating engine and compiled documentation - ensuring that any code-snippet is always up-to-date with the released code.

05-07.2016	**Google Summer of Code**

Scala Organization

Implementing the next generation documentation tool, alias dottydoc, for Scala. Improvements over the old scaladoc include a full Scala stack from runnable binary to client JavaScript using Scala.js

02-05.2016	**École Polytechnique Fédérale de Lausanne** Lausanne, Switzerland

Research Fellow, Programming Methods Laboratory

Working on the next generation Scala compiler - dotty - and the tooling surrounding it.

The majority of the work consisted of identifying analyzing and fixing issues in the compiler. Major contributions include partial evaluation of statically known function results, implementing a REPL based on

Ammonite and laying the groundwork for the next generation documentation tool *dottydoc*.

2014 - 2016	**Axis Communications AB**	Lund, Sweden

Student Software Engineer, Core Technologies

Master's Thesis: **Image Processing Across Multiple Interconnected System-on-Chips**

Developed a **Linux kernel** performance indexing framework, measuring relative performance difference in key parts of the kernel using **Python**.

Implemented reference counting in Axis's video memory driver for debug purposes. It identified a potential deadlock on its first day of service.

Researched and implemented GPU use cases for Axis's embedded systems using **C** and **OpenGLES**.

Built a system for cataloging and maintaining test data. Making more than a terabyte of data not previously cataloged, searchable.

2012 - 2015	**Sole Proprietor**	Lund, Sweden

Software Engineer and Consultant

Developed an ordering system and API for Malmö's largest taxi company using **Scala**, **Akka** and **PostgreSQL**. Enabling users to order cabs and track their location in real time.

Developed the second version of the taxi company's iOS app.

Project manager for iOS & Android development on taxi apps.

2012 - 2015	**Lund University: Computer Sc. Dept.**	Lund, Sweden

Teacher's Assistant and Lab Manager

Data Structures, Abstraction and Design using Java

Programming and Databases

Computer Organization, taught students the basics of computer architecture, assembly and real time systems.

2012 - 2013	**Menmo**	Malmö, Sweden

Software Developer, Web Applications & Services

Developed the companion app and backend for a coffee bar and startup incubator. Enabling booking of meeting rooms, ordering products from the bar, Wi-Fi access as well as invoicing.

Webmaster and developer for the daily newspaper Skånska Dagbladet

SKILLS

Programming Languages

Scala, Haskell, Java, C, Python, C++14, PureScript, JavaScript

Other Skills

Linux, Mac OS, PostgreSQL, Kafka, Reactive Programming, TDD, DDD, Spark, TCP/IP, Agile, git, REST, React

Talks

Regaining Control - Indexed Monads

2018-05-04 flatMap(Oslo)

Programming Multicores in Scala

2017-11-29 SICS Multicore Day

Real World Dotty

2017-09-18 Scala World

Reconstructing Scala

2017-06-01 ScalaDays CPH

Abstractions in Dotty for Fun and Profit

2017-05-03 flatMap(Oslo)

Dotty and the new Scala Developer Experience

2017-02-26 Scala Matsuri

Thoughts on Scala 3

2017-02-07 Scala Meetup at JFokus

Deconstructing Dotty

2016-10-17 Lund University

OPEN SOURCE / ACADEMIA

- Program Committee Erlang Workshop ICFP 2019
  https://icfp19.sigplan.org/home/erlang-2019
- Compiler Team Member of dotty
  https://github.com/lampepfl/dotty
- Contributor to Scala: key contributor to the 2.12 Scaladocs tool
  Getting into Scaladoc Development featured on Scala-lang.org:*http://bit.ly/1r8m90Z*
  https://github.com/scala/scala
- Maintainer of purescript-spec a testing framework inspired by Haskell's hspec
  https://github.com/purescript-spec
- Contributor to the cats category theory and functional programming library for Scala
  https://github.com/typelevel/cats

OTHER

- Competed in Swedish Espresso Brewing Championship and placed 8th.
- Worked as chief of QA, machine engineer and group leader for the coffee tents at the university carnival, *Lundakarnevalen*. The carnival involves 6 000 students and attracts over 400 000 visitors

REFERENCES

Available upon request