

Mathieu B. Demarne

► Master Student in Computer Science at EPFL

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Education

- 2013 - currently** **Master's Degree of Computer Science at École Polytechnique Fédérale de Lausanne (EPFL), Switzerland**
- Specialization in Foundation of Software
 - **Relevant courses**: Advanced Compiler Construction, Cryptography and Security, Concurrent Algorithms, Model-based System Design, Big Data
 - **Grade average**: 5.53 / 6
- 2010 - 2013** **Bachelor's Degree of Computer Science at École Polytechnique Fédérale de Lausanne**
- **Relevant courses**: Advanced Computer Theory, Computer Network, System Oriented Programming
 - **Grade average**: 5.49 / 6
- 2012 - 2013** **One Year Study Abroad at Carnegie Mellon University (CMU), Pittsburgh, USA**
- **Relevant courses**: Web Application Development, Foundation of Software Engineering, Operating System Design and Implementation, Security and Policy
 - **Award**: Dean's List, Carnegie Mellon University School of Computer Science. Awarded for outstanding academic performance during the Fall of 2012

Technical Experience

- Aug. 2014 - Feb. 2015** **Bloomberg L.P., London, UK**
- **Financial Software Development Placement**
 - C++ / Javascript / SQL / Python
 - Built first phase of a new tool to allow automatic deployment of software packages across production servers. The task involved to follow security standards, SDLC and production deployment procedures.
 - Worked on a quote history component to plot large amounts of intraday data on prices and sizes from markets connectivities while following UI/UX standards.
- 2014 - currently** **École Polytechnique Fédérale de Lausanne**
- **Member of Project scala.meta (Scala Macros)** ("AST Persistence", infoscience.epfl.ch/record/200050)
 - Project in a group of two
 - Scala / SBT
 - Storing compressed Abstract Syntax Tree along with bytecode at compile time; decompression and reuse at run time or compile time; automatic packaging using SBT (Simple Build Tool).
 - Research and learning in compilers and tree compression as well as automated building tools.
 - **Tweet Aggregator** ("CrossStream", crstm.link)
 - Team leader in a group of ten
 - Scala / HTML / CSS / JS / Play Framework
 - "A real-time audit tool for the social web": aggregator based on Twitter streaming API with subject correlations, maps and historical graphs.
 - Project started as a part of a course on Big Data. A second generation of the project focuses on the real-time aspect of the tool and is developed by a subset of the original team. My contribution:
 - Management of the team effort
 - Quality check, integration
 - data sources management
- 2012 - 2013** **Carnegie Mellon University**
- **Development of a Unix-Like Operating System**
 - Project in group of two
 - C / IA-32
 - Research and learning in various topics such as OS booting, interruptions, stack behavior, memory error checking, low-level synchronization, kernel security.
 - Implementation of a kernel, including:
 - Virtual memory
 - Scheduler (round-robin)
 - Various drivers
 - System calls
 - Program loader
 - Thread library
 - **Development of a Web Application for Fridge and Recipes Management** ("Alimonia")
 - Project in group of two
 - Scala / SQL / Javascript / HTML / CSS
 - Website to manage a fridge and propose recipes fitting it's content, with automatic removal of the ingredients used to cook.
 - The project was based on the *Play Framework* with the following main features:
 - Name and quantity matching algorithm
 - Subscription and authentication system
 - Importation of recipes (web scraper)

Original Experience

- 2015** **Winner of the Lausanne Startup Weekend 2015 with tasti.ch** (seven team members)
- 2012 - currently** **Online journal of stories and critics** ("le-cretin-transnational.ch")
- Logos and booklet, various articles (some published in a Swiss monthly student's newspaper).
- 2012 - 2014** **Teaching assistant for Information Sciences** (2012), **Teaching assistant for Logic Systems** (2014)
- 2012** **Involvement in the sailing association of EPFL, boat equipment manager**
- 2009 - 2010** **Six months of Volunteering in Thailand (AFS Association), placed in Khon Kaen High School**

Computer skills

Advanced	Scala, C
Good	Java, C++, SQL, Assembly Language (IA-32), JavaScript, Python, HTML & CSS, Shell Scripting, OS Programming
Tools	Git, Eclipse, IntelliJ, Play Framework, SBT, svn, vim, Firework 8+

Languages

French	Mother tongue
English	Working spoken and written language proficiency
German	Working comprehension

Hobbies

Writing (redaction of two novels, one selected for a contest by *Les Nouveaux Auteurs* publishing house), Sailing, Cycling

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