

Mathieu B. Demarne

► Master Student in Computer Science at EPFL

Birthday : April 14th, 1991
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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, Technology Ventures in IC
 - **Grade average:** 5.50 / 6 (or 3.67 GPA)
- 2010 - 2013** **Bachelor's Degree of Computer Science at École Polytechnique Fédérale de Lausanne (EPFL)**
- **Relevant courses:** Advanced Computer Theory, Computer Network, System Oriented Programming
 - **Grade average:** 5.49 / 6 (or 3.66 GPA)
- 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

- Sept 2015 - currently** **IBM Research - Zurich, Rüschlikon, Switzerland**
- Master Thesis "*Industrial Control System Security*"
- Feb. 2015 - June 2015** **Codacy and École Polytechnique Fédérale de Lausanne (EPFL)** ◦ Scala / SBT
- **Worked in collaboration with Codacy (codacy.com) as part of a semester-long project**
 - Integrated style rule definitions in Scala to Codacy Engine.
 - As an outcome, Codacy decided to move away from the original JavaScript engine in order to use Scala and Scala.Meta for Scala styling patterns.
 - **Enhanced a linter tool for Scala to preserve original layout under code transformation**
 - Associated report: demarne.name/docs/style-checking-scalameta-mdemarne.pdf
- 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 (EPFL)**
- **AST Persistence** (Member of Project Scala.Meta (Scala Macros), 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.
 - **CrossStream: "A real-time audit tool for the social web"** (crossstream.ch)
 - Team leader in a group of seven
 - Real-time aggregator on the Social Web with subject correlations, maps and historical graphs, targeting newspapers and companies with important public image.
 - Developed a business plan and a go-to-market strategy as well as investment plan. My contribution:
 - Management of the team effort
 - Development of the prototype
 - Presentation and pitch
 - **Tweet Aggregator** (github.com/TweetAggregator/CrossTalk)
 - Team leader in a group of ten ◦ Scala / HTML / CSS / JS / Play Framework
 - Aggregation of tweets based on location, displayed on a dynamic map and clustered to represent intersections of keywords.
 - Project started as a part of a course on Big Data. 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

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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