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 Polytechique 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 Polytechique 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 – March 2016	**IBM Research - Zurich, Rüschlikon, Switzerland**
	• Master Thesis "*Industrial Control System Security*"
Feb. 2015 – June 2015	**Codacy and École Polytechique 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 Polytechique 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 kewords.
	◦ 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 <u>tasti.ch</u>** (seven team members)
2012 - currently	**Online journal of stories and critics** ("<u>le-cretin-transnational.ch</u>")
	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