

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 <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• 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 <ul style="list-style-type: none">• 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

Sep. 2015 - Mar. 2016	IBM Research - Zurich, Rüschlikon, Switzerland <ul style="list-style-type: none">• Master Thesis "<i>Industrial Control System Security</i>"
Feb. 2015 - Jun. 2015	Codacy and École Polytechnique Fédérale de Lausanne (EPFL) ◦ Scala / SBT <ul style="list-style-type: none">• Worked in collaboration with Codacy (codacy.com) as part of a semester-long project<ul style="list-style-type: none">◦ 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<ul style="list-style-type: none">◦ Associated report: demarne.name/docs/style-checking-scalameta-mdemarne.pdf
Aug. 2014 - Feb. 2015	Bloomberg L.P., London, UK <ul style="list-style-type: none">• Financial Software Development Placement ◦ C++ / Javascript / SQL / Python<ul style="list-style-type: none">◦ 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) <ul style="list-style-type: none">• AST Persistence (Member of Project Scala.Meta (Scala Macros), infoscience.epfl.ch/record/200050)<ul style="list-style-type: none">◦ 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)<ul style="list-style-type: none">◦ 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:<ul style="list-style-type: none">► Management of the team effort► Development of the prototype► Presentation and pitch• Tweet Aggregator (github.com/TweetAggregator/CrossTalk)<ul style="list-style-type: none">◦ 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:<ul style="list-style-type: none">► Management of the team effort► Quality check, integration► Data sources management
2012 - 2013	Carnegie Mellon University <ul style="list-style-type: none">• Development of a Unix-Like Operating System<ul style="list-style-type: none">◦ 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:<ul style="list-style-type: none">► 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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