

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 SoftwareRelevant courses: Advanced Compiler Construction, Cryptography and Security, Concurrent Algorithms, Model-based System Design, Big Data, Technology Ventures in ICGrade 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 ProgrammingGrade average: 5.49 / 6 (or 3.66 GPA)
2012 - 2013	One Year Study Abroad at Carnegie Mellon University (CMU), Pittsburgh, United States <ul style="list-style-type: none">Relevant courses: Web Application Development, Foundation of Software Engineering, Operating System Design and Implementation, Security and PolicyAward: 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, United Kingdom <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 / SBTStoring 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 sevenReal-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 pitchTweet Aggregator (github.com/TweetAggregator/CrossTalk)<ul style="list-style-type: none">Team leader in a group of ten ◦ Scala / HTML / CSS / JS / Play FrameworkAggregation 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 (CMU) <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-32Research 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
Worked with	Java, C++, SQL, Assembly Language (IA-32), JavaScript, Python, HTML & CSS, Shell Scripting
Skills	Play Framework, Akka, sbt, Reactive Programming, Web Development, Compilers, Operating Systems, Big Data Analytics

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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