

SAMUEL CHASSOT

✉ samuel.chassot@epfl.ch ☎ +41 79 915 31 92 📍 Lausanne, Switzerland
🌐 [linkedin.com/in/samuel-chassot-289184141/](https://www.linkedin.com/in/samuel-chassot-289184141/)
🐙 github.com/samuelchassot 📄 researchgate.net/profile/Samuel-Chassot
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🎂 02 May 1996



EDUCATION

PhD in Computer Science

EPFL

📅 Sep 2022 – Ongoing

📍 Lausanne, Switzerland

Master of Science and Bachelor of Science in Computer Science

EPFL

📅 Sep 2016 – Feb 2022

📍 Lausanne, Switzerland

RESEARCH EXPERIENCE

Verifying a Realistic Mutable Hash Table

LARA - EPFL

- Formal verification of the LongMap implementation of the Scala standard library with Stainless
- Discovery of a bug in the original implementation and proposition of a fix
- Release of the SMT queries generated by Stainless
- Published at IJCAR24

ASN.1 implementation in collaboration with ESA

LARA - EPFL

- Verification of an ASN.1 serialisation protocol implementation with Stainless
- Collective effort in my research group
- Collaboration with the European Space Agency
- Published at VMCAI25

A Verified Linear-Time Invertible Lexer, including Zipper-Based Regular Expression Matching and Memoization

LARA - EPFL

- Implementation of a linear-time lexer using regular expression
- Implementation and verification of a regular expression matching algorithm based on derivatives including a zipper-based optimization
- Verification of the correctness of the lexer including longest match semantics and invertibility in Stainless including memoization
- Reusable and fully verified memoization framework based on a verified mutable hash table

SVSHI - Secure and Verified Smart Home Infrastructure

Master thesis in DSLAB - EPFL

- Development of an open-source platform to write, compile, verify, and run Python applications on KNX infrastructures to bring formal verification into smart buildings

Scaling up an Unsupervised Image-to-Image Translation Framework from Basic to Complex Scenes

Research project in IVRL - EPFL

- Published in the American Journal of Computer Science and Technology 4

Development of a NIC driver in C#

Master semester project in DSLAB - EPFL

- Development of a NIC driver in C# based on a C version including performance evaluation showing the competitiveness of high-level languages for drivers

Adding tooling support for Dotty Enum in Scalameta and Scalafmt

Bachelor semester project in LAMP - EPFL

- Modification of Scalameta and Scalafmt libraries to support the new Dotty Enum and development of a VS Code extension to format Scala code using Scalafmt and the LSP protocol

LANGUAGES

English

French

German



PROFESSIONAL EXPERIENCE

PhD Student: Teaching aspect

LARA EPFL

📅 Sep 2022 – Ongoing 📍 Lausanne, Switzerland

- CS-214 - Software Construction
- CS-522 - Principles of Computer Systems
- CS-320 - Computer Language Processing
- 6 semesters as a Master student for courses such as software engineering

Applied Scientist Intern

AWS

📅 May 2025 – Aug 2025 📍 Austin, TX, USA

- Work on adding heap splitting reasoning to the Dafny verifier
- Work on heap splitting reasoning for Strata, an middle layer for verification tool offering intermediate representation, in Lean4

Research engineer

DSLAB EPFL

📅 Apr 2022 – Sep 2022 📍 Lausanne, Switzerland

- Supervision of a master thesis and some master semester projects related to the SVSHI project
- Research development in continuation to the SVSHI project

Software engineer

Swissquote

📅 Mar 2022 – Apr 2022 📍 Gland, Switzerland

Software engineer

BioT

📅 Jul 2021 – Aug 2021 📍 Lausanne, Switzerland

- Development of a solution based on Raspberry Pi and Python scripts including the management of the project
- Backend development (Kotlin + Vertx) and development of a triangulation program (Python + NumPy)

Software developer

Freelance

📅 Jul 2018 – Aug 2022 📍 Bulle, Switzerland

Software developer

Progin SA

📅 Summers 2017 to 20 📍 Bulle, Switzerland

- Various software development: mobile applications (iOS and Android), server-side DotNET applications, interoperability programs between systems (e.g., Microsoft Active Directory, Microsoft Dynamics NAV, and M-Files), Add-in for Microsoft Outlook, user-facing desktop applications with UI.