

Thomas Schweizer

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EDUCATION

Ph.D. in Computer Science. <i>University of Washington, United States</i>	Expected graduation: June 2024
M.Sc. in Computer Science. <i>Université de Montréal, Canada</i>	2018 - 2020
B.Sc. in Computer Science. Major: Software Engineering <i>Haute Ecole d'Ingénierie et de Gestion du Canton de Vaud, Switzerland</i>	2011 - 2014

EXPERIENCE

Research Software Developer. Mila - Quebec Artificial Intelligence Institute	2020
<ul style="list-style-type: none">Developed a machine learning hyper-parameter optimizer used by top ML researchers and students.Researched and designed hyper-parameter visualization features in collaboration with IBM research.Improved productivity and coordination for our team of 10 developers by establishing formal management and tracking tools for software projects.	
Software Engineer. Digger Foundation	2014 - 2019
<ul style="list-style-type: none">Designed and built the back-end software and the Android app of the SMART system deployed in Asia, Europe, and Africa to remove landmines safely using remote-controlled machines and dogs.Enforced systematic testing for critical software components by introducing an integrated workflow platform and establishing practical software development guidelines for the company.	
Teaching Assistant for 'Advanced Java', and 'Software Engineering'. Université de Montréal	2018 - 2019

PUBLICATIONS AND PRESENTATIONS

T.Schweizer, V. Zafeiris, M. Fokaefs and M. Famelis, "Can Refactorings Indicate Design Tradeoffs?," 2020 IEEE 20th International Working Conference on Source Code Analysis and Manipulation (SCAM), Adelaide, Australia, 2020.

T. Schweizer, advised by M. Famelis, "Towards Using Fluctuations in Internal Quality Metrics to Find Design Intent," Master Thesis, Université de Montréal, Montreal, Canada, 2020.

T. Schweizer, V. Zafeiris, M. Fokaefs and M. Famelis, "Finding Quality Tradeoffs in Revision Histories," Poster session and talk at MiSE 2020, CSER 2020, and CSCAN-SPAC, Montreal, Canada, 2019.

T. Schweizer, "Applying Software Engineering Principles to a Machine Learning Algorithm: Lessons Learned," Poster session at Software Engineering for Machine Learning Applications (SEMLA), Montreal, Canada, 2018.

RELEVANT SKILLS

Topics: Software Engineering, Data Science, Machine Learning, Natural Language Processing, Databases
Languages: Java, Python, HTML/CSS/JavaScript, Scala, SQL, R, C#

SELECTED PROJECTS

Metric History, Université de Montréal: Built a dataset of software metric changes in source code from 13 projects over 107,449 commits by building a static-analyzer agnostic tool to mine source code across version history.

Detecting Design Principles, Université de Montréal: Built a machine learning model that detects the application of SOLID design principles from metric changes in source code with an F1 of 66.4%.

Lemma to word, Université de Montréal: As a team of 2, built a Hidden Markov Model that convert lemmatized sentences to their original form.

Pause, Personal project: Healthy productivity companion built on Electron (HTML/CSS/Javascript/NodeJS).

Stargazers, Université de Montréal: Led a team of 4 to build and compare machine learning models that detect new exoplanets from NASA's Kepler dataset with an average accuracy of 97%.

Evolution et vie artificielles, HEIG-VD: Conducted controlled experiments to understand the genetic evolution of populations of digital organisms and their behaviors by developing a genetic library in C# and a 3D physic-bound simulation environment in Unity.

AWARDS AND ACHIEVEMENTS

University of Washington (GPA 4.0)

Allen School Computer Science & Engineering Research Fellowship 2020

Université de Montréal (GPA 4.0)

Bourse de rédaction DIRO: Departmental scholarship for thesis redaction 2019

Bourse d'excellence FESP: Graduate and post-doctoral studies faculty scholarship for academic excellence 2019

Bourse de fin de maîtrise: Graduate and post-doctoral studies faculty scholarship for thesis redaction 2019

Bourse d'excellence DIRO: Departmental scholarship for academic excellence 2019

Bourse d'excellence DIRO: Departmental scholarship for academic excellence 2018

Bourse d'excellence FESP: Graduate and post-doctoral studies faculty scholarship for academic excellence 2018

Bourse C: Scholarship of excellence for international students 2018

Haute Ecole d'Ingénierie et de Gestion du Canton de Vaud (Grade A, Class rank 1)

Prix HEIG-VD : Best overall results during all semesters and final project 2014

Prix GiTi : Excellent bachelor project "*Evolution et vie artificielles*" 2014

Swiss Summer University Program at San Jose State University

Best overall grades among 40 international students in the program 2013

GPA (out of 4.0) is calculated from <https://applications.wes.org/igpa-calculator/>.