

HENRI AÏDASSO

Research Scientist | Machine Learning and Intelligent Systems
Ph.D. Researcher @ École de technologie supérieure (ÉTS)
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LANGUAGES

French: Native Language | **English:** Professional working proficiency | **Fon:** Native Language

RESEARCH INTERESTS

Machine Learning, Deep Learning, Natural Language Processing, AI for Software Engineering, Intelligent Systems, Distributed Systems, Software Architecture, Digital Twins.

EDUCATION

Ph.D. in Computer Engineering 2022 — Feb 2026 (*exp.*)
Dept. of Software and IT Engineering, École de technologie supérieure (ÉTS) Montreal, Canada
Thesis: Efficient AI-powered Automation for Reliable CI/CD Pipelines
GPA: 4.3/4.3

M.Sc. in Big Data: Decision Support and Machine Learning 2020 — 2022
Faculty of Computer Sc. and Electronics, University of Rennes 1 Rennes, France
Grade: Valedictorian, “*Mention Très Bien*”

B.Sc. in Computer Science 2019 — 2020
Faculty of Computer Sc. and Electronics, University of Rennes 1 Rennes, France
Grade: Valedictorian, “*Mention Très Bien*”

B.Sc. in Computer Science and Management 2014 — 2017
Dept. of Computer Sc. and Management, University of Abomey-Calavi (UAC) Cotonou, Benin
Grade: Valedictorian, “*Mention Bien*”

EXPERIENCES

Research and Development Intern Aug 2025 — Dec 2025 (4 mos.)
Computer Research Institute of Montreal (CRIM) • Internship Montreal, Canada
Exploring geospatial data standardization and machine learning (ML) modeling as part of the GeoConnections project by *Natural Resources Canada*. Developed optimized algorithms for integrating terabytes of geospatial data cubes in the Spatio-Temporal Asset Catalogue (STAC) for weather and climate research.

Research Scientist May 2023 — Aug 2025 (2 yrs 4 mos.)
TELUS • Mitacs Accelerate Fellowship Montreal, Canada
Defined and led research on efficient AI-powered techniques to mitigate intermittent job failures, achieving up to 25% reduction in machine costs and improving developer productivity. Designed an intelligent framework integrating ML models and AI agents for anomaly detection, diagnosis, and automated repair.

Data Scientist Sep 2021 — Aug 2022 (1 yrs.)
Energiency • Apprenticeship Rennes, France
Improved the energy efficiency of large European Industry 4.0 factories by up to 15% (in electricity and gas bill reduction) using machine learning and data science approaches: real-time energy consumption modeling and forecasting, anomaly detection, golden batch analysis, and performance deviation analysis.

Machine Learning Engineer

Energency • Apprenticeship

Sep 2020 — Aug 2022 (2 yrs.)

Rennes, France

Developed and maintained the cloud-based backend for ML model deployments at scale, enabling distributed model training and real-time inference workflows for dozens of ML models actively serving end customers. Created several in-house data science libraries to facilitate the reuse of data science tools.

Information Technology Developer

Worldline Global • Internship

May 2020 — Aug 2020 (4 mos.)

Rennes, France

Developed financial data monitoring tools for *Tap2Use* (the top 1 digital payment solution for transportation in France) including daily statistics on large data volumes across distributed NoSQL databases.

Software Engineer

Arriauz Services Santé • Contract

Nov 2018 — Oct 2020 (2 yrs.)

Cotonou, Benin

Developed and maintained the platform of the health services mobile application *Dis-moi Doc*: instant chat with a doctor, drug prices, medication reminders – with 15,000+ downloads on Google Play Store.

Software Developer

Contracts and Internships

Sep 2016 — Aug 2019 (3 yrs.)

Cotonou, Benin

Android and full-stack web developer (consultant/intern) on various projects in healthcare, finance, education, and business management across seven governmental and software organizations: Port Authority of Cotonou, Beninese Electrical Energy Company, RINTIO, JMA Plus, OpenSI, and Blolab.

TEACHING AND SUPERVISION EXPERIENCES

Lecturer

École de technologie supérieure (ÉTS) • Contract

Sum 2025

Montreal, Canada

LOG680 — Introduction to DevOps (AI-powered Automation and Software Analytics)

Teaching Assistant — LOG680

École de technologie supérieure (ÉTS) • Contract

Fall 23, Win 24, Sum 24, Win 25

Montreal, Canada

Graduate Research Supervisor

École de technologie supérieure (ÉTS)

Sum 2025

Montreal, Canada

Supervised an M.Eng. internship project on developing an AI agent to assist in fixing flaky job failures.

Co-supervised an M.Sc. research project on the dynamic modeling of DevOps processes using BPMN.

PUBLICATIONS

Towards Open-Ended Discovery for Low-Resource NLP

Bonaventure F. P. Dossou*, Henri Aïdasso* (*Equal Contribution)

Proceedings of the UncertainNLP Workshop at the 30th Conference on Empirical Methods in Natural Language Processing (EMNLP). September 2025, in press (pages to appear).

Efficient Detection of Intermittent Job Failures Using Few-Shot Learning

Henri Aïdasso, Francis Bordeleau, Ali Tizghadam

Proceedings of the IEEE 41st International Conference on Software Maintenance and Evolution (ICSME). September 2025, in press (pages to appear).

Build Optimization: A Systematic Literature Review

Henri Aïdasso, Mohammed Sayagh, Francis Bordeleau

ACM Computing Surveys (CSUR). August 2025, Vol. 58, No. 1, pp. 1-38.

Towards Build Optimization Using Digital Twins

Henri Aïdasso, Francis Bordeleau, Ali Tizghadam

Proceedings of the ACM 21st International Conference on Predictive Models and Data Analytics in Software Engineering (PROMISE). June 2025, pp. 95-98.

On the Diagnosis of Flaky Job Failures: Understanding and Prioritizing Failure Categories

Henri Aïdasso, Francis Bordeleau, Ali Tizghadam

Proceedings of the IEEE/ACM 47th International Conference on Software Engineering: Software Engineering in Practice (ICSE SEIP). May 2025, pp. 192-202.

On the Illusion of Success: An Empirical Study of Build Reruns and Silent Failures in Industrial CI

Henri Aïdasso, Francis Bordeleau, Ali Tizghadam

IEEE Transactions on Software Engineering (TSE). Submitted September 2025 (under review).

Do SDN Configuration Changes Get Reviewed Differently? An Empirical Study at TELUS

Samah Kansab, Henri Aïdasso, Francis Bordeleau, Ali Tizghadam

Empirical Software Engineering (EMSE). Submitted July 2025 (under review).

SKILLS

Research (4 years), Applied Research. **Machine Learning** (6 years), Natural Language Processing, Time Series Modeling, Data Mining, Statistical Inference. **Programming:** Python (7 yrs), Java (6 yrs), R (2 yrs), Node.js (4 yrs), C++ (1 yr), Bash (2 yrs). **Mathematics:** Statistics, Probability, Linear Algebra, Analysis. **Software Engineering** (6 yrs). **Databases** (8 yrs). **DevOps:** CI/CD (7 yrs), Docker (6 yrs), k8s (2 yrs).

Frameworks: PyTorch, Transformers, scikit-learn, smolagents, FastAPI, SpringBoot, NestJS, Plotly

Database Systems: PostgreSQL, TimescaleDB, MongoDB. **Tools:** Docker, Kubernetes, Postman, Clouds.

HONORS AND AWARDS

Arbour Foundation Doctoral Scholarship

2025

Prestigious and highly selective scholarship awarded by the *Arbour Foundation* to outstanding doctoral students in Quebec universities for academic excellence, leadership, and dedication to social impact.

Mitacs Accelerate Fellowship

2023 — 2025

Awarded by *Mitacs* in partnership with *TELUS* for doctoral research collaborations between academia and industry to accelerate real-world innovation via paid research internships.

Top of Class — Awarded the Only Highest Honors

2022

Graduated valedictorian of the MSc Class of 2022 with the only “*Mention Très Bien*”, the highest academic distinction in the French grading system for achieving an overall grade average above 16/20.

Trophy of Excellency

2017

Awarded by the *Club des Elites of UAC* to the best student in Computer Science applied to Management for outstanding academic performance, after being listed on the Honor Roll as Top (1st) of Class all years of the B.Sc. degree in 2015, 2016, and 2017.

National Mathematics Champion

2014

One of the top four champions in Benin’s national mathematics championship, having represented the country at the 2014 International Mathematical Olympiad (IMO) held in Cape Town, South Africa.

Benin Government Excellence Scholarship

2014 — 2017

Excellence scholarship awarded to top-performing students in the national college-leaving exam, renewed for the three consecutive years of undergraduate study for continued academic performance.

SERVICES AND VOLUNTEERING

Coordinator of graduate studies committees at the ÉTS Students' Association (AÉÉTS)	2025 — Now
Head of Organizing Committee — Annual Congress of ÉTS Student Researchers (CAéc)	2025 — Now
Committee Member — Doctoral Excellence Awards Evaluation Committee at ÉTS	Fall 2025
Committee Member — International Graduate Student Welcome Committee at ÉTS	Fall 2025
Mentor for intl. undergraduate students in the Contact Program at ÉTS	Sum — Fall 2025
ACL Member — Association of Computational Linguistics	2025 — Now
Junior Program Committee Member for the ACM/IEEE MSR 2026, Technical Track	2025
Program Committee Member for the IEEE CASCON 2025, Artifacts Track	2025
Reviewer for the UncertainNLP workshop @EMNLP 2025	2025
Reviewer for the African Computer Vision Summer School (ACVSS)	2024 — 2025
Junior Reviewer for the ACM/IEEE MODELS 2024, Technical Track	2024
IEEE Member — Institute of Electrical and Electronics Engineers	2024 — Now
Member of Cédille — Scientific club for DevOps experimentation at ÉTS	2023 — Now
Member of SEMTL — Software Engineering Researchers' Community at Montréal	2022 — Now
Vice President of the Student Office in MIAGE at University of Rennes 1 (France)	2020 — 2021
Secretary-General of the Association of Computer Science Students at UAC (Benin)	2017 — 2018
Information Technology Educator for the EduGh project at AIESEC in Legon (Ghana)	Sum 2015