Personal information

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scholar.google.com/citations?user=jPXvkJUAAAAJ

Research Interests

Neuroevolution · Bio-Inspired · Open-Endedness · Artificial Life · Space

Education

2020 – · · · · **Ph.D. Computer Science** with Prof. Dr. Kilian Stoffel and Prof. Dr. Paul Cotofrei.
Evolving Neural Networks toward Humanity-inspired Artificial Collective Intelligence.
University of Neuchâtel, Neuchâtel, Switzerland

2018 – 2020 **M.Sc. HES-SO Software Engineering** with Prof. Dr. Jean Hennebert.
Multi-hop Multi-turns Question-Answering Chatbot using Sub-Knowledge Graphs.
University of Applied Sciences and Arts of Western Switzerland (HES-SO), Lausanne, Switzerland

2013 – 2016 **B.Sc. HES-SO Software Engineering** with ing. info. dipl. EPF Marc Schaefer.
Anonymous and Decentralized Browser-based Data Sharing Service.
University of Applied Sciences and Arts of Western Switzerland (HES-SO), Neuchâtel, Switzerland

Complementary Education

2024 – 2025 **GECCO Summer School** *Computer Science Workshops / Presenting* (4 days).
RMIT University, Melbourne, Australia / University of Málaga, Málaga, Spain

2022 – 2024 **BENEFRI Summer School** *Computer Science Workshops / Presenting* (6 days).
University of Neuchâtel, Bern, and Fribourg

2023 **CUSO Winter School** *Computer Science Workshops / Presenting* (28 Hours).
University of Neuchâtel, Switzerland

2020 – 2024 **CUSO Doctoral Training** *Computer Science and Skills* (112 Hours).
University of Neuchâtel, University of Geneva, University of Lausanne, Online

2020 **Required Doctoral Coursework** *Major in Computer Science* (18 ECTS).
University of Neuchâtel (UNINE), Neuchâtel, Switzerland

2010 – 2012 **Undergraduate** *Major in Physics* (5 ECTS).
Swiss Federal Institute of Technology Lausanne (EPFL), Lausanne, Switzerland

2009 – 2010 **Undergraduate** *Major in Physics & Mathematics* (35 Undergraduate Credits).
Northeastern University, Boston, Massachusetts, United States of America

2009 **Extension School** (4 Undergraduate Credits).
Followed the class of Prof. Dr. Wolfgang Rueckner, Principles of Physics IT (PHYS E-1B).
Harvard University, Cambridge, Boston, Massachusetts, United States of America

2008 **Summer School** (8 Undergraduate Credits).
Followed the class of Dr. Jonathan Weintroub, Laboratory Electronics (PHYS S-123).
Harvard University, Cambridge, Boston, Massachusetts, United States of America

Experience

2023 – · · · · **Visiting Researcher** at UCD Natural Computing Research & Applications Group. (Supervised by Prof. Michael O'Neill).
University College Dublin, Dublin, Ireland.

Experience (continued)

2020 – · · · · **Doctoral Assistant** at the Information Management Institute. Applied Mathematics & Databases for 1st-year Bachelor. (Supervised by Dr. Paul Cotofrei).
University of Neuchâtel, Neuchâtel, Switzerland.

2017 – 2018 **IT Independent.** Consulting in Software Engineering and Blockchain. The tasks were to advise technologies, define projects, make prototypes, and conduct workshops.
Geneva area, Lausanne area, and Versicherix AG, Switzerland.

2016 – 2017 **Co-Founder** at a Blockchain-based InsurTech Startup. Lead in blockchain and innovation. The tasks were to make software architectures, high-level product schematics, management, workshops, prototypes, and documentation. Administration, fundraising, exhibitions, partnerships, and market studies.
Versicherix AG, Solothurn, Switzerland.

2010 – 2015 **Founder** at a Multimedia Streaming Startup. Lead developer and executive. The tasks were to make software architectures, implement prototypes & software, manage digital rights, build the business model, perform market studies, conduct fundraising, create partnerships with film studios, and comply with copyright laws.
Libacy, Neuchâtel, Switzerland.

2010 **Summer Internship** at Jenks Vestibular Physiology Lab under the supervision of Asst. Prof. Dr. Faisal Karmali. Design an experiment to identify a link between vision and the vestibular system. The tasks were to build the setup in 3D, build the setup by adapting a hydraulic flight simulator, run Matlab simulations, experiment on human subjects, and interpret the results.
Massachusetts Eye & Ear Infirmary, Harvard Medical School, Boston, United States of America

2012 **Summer Internship** in Watchmaking R&D using 3D computer-aided design (CAD).
Manufacture Claret, Le Locle, Switzerland

2006 **Summer Internship** in Watchmaking manufacturing, chamfering, and technical control.
Manufacture Claret, Le Locle, Switzerland

2005 **Summer Internship** in Watchmaking disassembly, reassembly and customization of a mechanical pocket watch.
Manufacture Claret, Le Locle, Switzerland

2004 **Summer Internship** in Watchmaking 3D computer-aided design (CAD) construction and technical drawing of watch movements.
Manufacture Claret, Le Locle, Switzerland

Teaching

2020 – · · · · **Teaching Assistant.** Applied Mathematics (Analysis and Linear Algebra).
4 hours lecture and QA per week per semester given to first-year bachelors in Economical Science and Data Science.
University of Neuchâtel, Neuchâtel, Switzerland

Teaching Assistant. Databases (Modelization, SQL, NoSQL, Visualization).
2 hours QA per week during spring semester given to third-year bachelors in Economical Science and Data Science.
University of Neuchâtel, Neuchâtel, Switzerland

2020 – 2022 **Guest Lecturer.** "Demystifying Artificial Intelligence for Health Professionals".
3 hours yearly lecture given to second-year physicians as part of their optional courses.
University of Geneva, Geneva, Switzerland

2021 **Teaching Assistant.** Digital Management and Processing of Multimedia Data (Analyze data, Identify and Formulate issues, Create visualizations).
4 days of project supervision and QA during the fall semester (block course) given to bachelors in Economical Science and Law.
University of Neuchâtel, Neuchâtel, Switzerland

Activities in panels, and commissions

2025 – · · · · **UniNE**. Member of the University Assembly of the University of Neuchâtel.
2023 – · · · · **UniNE**. Committee Member of the Mid-level staff Association (ACINE).
2015 – 2017 **HES-SO**. Member of the Participatory Council of the Engineering domain.

Active Memberships in Scientific Societies

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2022 – · · · · **IEEE**. Member of the Institute of Electrical and Electronics Engineers.
ACM. Member of the Association for Computing Machinery.
ISAL. Member of the International Society for Artificial Life.

Student Associations

2023 – · · · · **UniNE**. President of the Computational Thinking Association (Algorithmia).
UniNE. Treasurer of the Association Suisse Alémanique & Friends (ASA&F).
2014 – 2016 **HES-SO**. Head of Communication of the Student Association (REH-SO).
2010 – 2012 **EPFL**. Webmaster of the Role-playing Association (JDRpoly).
EPFL. Committee Member of the Physics Students Association. (Irrotationnels)
EPFL. Member of the Robotics Association (RoboPoly).
2009 – 2010 **Northeastern University**. Member of the Society of Physics Students (SPS).

Skills

Languages French Native, English Fluent, Russian Proficient, German Basic
Code & Frameworks Python, JAX, C++, JS, Pytorch, Pandas, NetworkX, Scikit, Keras, ...
Machine Learning Deep learning, Local/Edge Models, Transformers, LLMs, ...
Computing Model optimization, HPC, Graphs, Smart Contracts, ...
Dev-Ops Git, Docker, Continuous Integration, IaaS, PaaS, SaaS, ...
Miscellaneous Open-source, Knowledge Bases, LaTeX, Blockchain, ...

Certifications

2013 **Entrepreneurship**. Granted by Venturelab, Switzerland.
2012 **Inventor Training**. Granted by Hurni Engineering, Switzerland.
2008 **Human Subjects Research**. Granted by CITI program, USA.

Major scientific achievements

Conference Proceedings

[1] F. Karmali, K. Lim, A. Adatia, R. Claret, K. Nicoucar, and D. M. Merfeld, "Perceptual roll-tilt thresholds demonstrate visual-vestibular fusion," in *40th Annual meeting of Neuroscience, San Diego, CA, on November*, 2010, pp. 13–17.

[2] R. Claret, M. O'Neill, P. Cotofrei, and K. Stoffel, "Investigating hyperparameter optimization and transferability for es-hyperneat: A tpe approach," in *Proceedings of the Genetic and Evolutionary Computation Conference Companion*, 2024, pp. 1879–1887.