

Jonathan Guerne | C.V.

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🌐 <https://github.com/JonathanGuerne/>

Computer scientist specialised in complex information systems.

Education

- **PhD Candidate in computer science**
University of Neuchâtel 2024–today
- **Master in information and communication technologies**
HES-SO 2018–2020
Graduate work : «Digital Twin AI: using RL to generate optimised machining path.»
- **Bachelor of Science in Computer science**
HE-ARC in Neuchâtel, Software 2015–2018
Scholar exchange at the university of Sherbrooke (QC, Canada)
- **Certified computer scientist**
CEFF Industrie in Saint-Imier, Application development 2012–2015
- **Technical Maturity**
CEFF Industrie in Saint-Imier 2012–2015

Work experiences

- **Research assistant**
HE-ARC in Neuchâtel 09/2021–today
- **civilian service, Assistant in IT development**
Compassion Switzerland 02/2021–08/2021
- **civilian service, Assistant in IT support**
Fondation du Levant in Lausanne 08/2020–01/2021
- **Research assistant**
HE-ARC in Neuchâtel 04/2020–07/2020

Skills

- **English** : Fluent (TOEIC at 885 points out of 1000)
- **French** : mother tongue
- **German** : basic knowledge
- **IT** :
Familiar with office software: Word, Excel, PowerPoint, etc.
Experience with programming language: Java, Qt, C++, C#, C, HTML, CSS, PHP, JS, MYSQL, Python, scala, spark, kotlin
Familiar with multiple development tools : GIT, Docker, Netbeans, IntelliJ, QtCreator, vs code ...
Practical experience with machine learning: unsupervised and supervised learning, deep learning, reinforcement learning and deep reinforcement learning.

Interests

- o **Traveling**, discovering new cultures
- o Basketball, cinema

Publications

S. Carrino, J. Guerne, J. Dreyer, H. Ghorbel, A. Schorderet, and R. Montavon, "Machining quality prediction using acoustic sensors and machine learning," in *Proceedings*, vol. 63, p. 31, MDPI, 2020.

J. Guerne, H. Ghorbel, C. Donzé, V. Briquez, D. Lüthi, P. Falbriard, and T. Nicoulin, "Geometrically-informed tool recommendation in high-speed machining," in *EPIA Conference on Artificial Intelligence*, pp. 410–420, Springer, 2024.

E. de Salis, J. Guerne, and H. Ghorbel, "Creating a virtual receptionist to lighten your employees' workload: a case study with the canton of jura and subsidies for training.," in *Proceedings of the 9th edition of the Swiss Text Analytics Conference*, pp. 171–171, 2024.

C. Donzé, J. Guerne, H. M. Reis, and P. Costa, "Rag: Unveiling the power of retrieval-augmented generation," in *Proceedings of the 9th edition of the Swiss Text Analytics Conference*, pp. 228–229, 2024.

H. Ghorbel, M. Sokhn, M. Cieliebak, M. Huerlimann, E. de Salis, and J. Guerne, "Proceedings of the 8th edition of the swiss text analytics conference," in *Proceedings of the 8th edition of the Swiss Text Analytics Conference*, 2023.

J. Guerne, H. Ghorbel, C. Donzé, V. Briquez, D. Lüthi, P. Falbriard, and T. Nicoulin, "Geometry optimisation algorithm for machining tools," *AI days HES-SO'25*, vol. 2025, 2025.