

Nicolas Hubert, Ph.D.

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Employment History

from September 2024	📌 Applied Scientist. Zalando SE, Berlin, Dortmund, Germany. Working on probabilistic delivery time forecasting for customer fulfillment.
2021 – 2024 (36 months)	📌 Ph.D. Researcher. University of Lorraine, Nancy, France. Creator of PyGraft , an open-source Python library (650 stars, 5,000 downloads).
2023 – 2023 (4 months)	📌 Visiting Ph.D. Researcher. University of Mannheim, Germany. Data and Web Science Group, worked with Dr. Prof. Heiko Paulheim. Published at K-CAP 2023 (Florida, US) and ESWC 2024 (Greece).
2020 – 2021 (5 months)	📌 Data Scientist Intern. Nokia Bell Labs, Paris, France. Worked on an improved version of DBSCAN for anomaly detection.
2019 – 2019 (5 months)	📌 Machine Learning Scientist Intern. Credit Suisse, Lausanne, Switzerland. Developed ML models for classifying fraudulent transactions. Deployed the model in production using Django and Flask.
2018 – 2018 (2 months)	📌 Back-End Developer Intern. Altervest Ltd, Montreal, Canada.
2017 – 2017 (3 months)	📌 Data Analyst Intern. HedgeServ, Luxembourg, Luxembourg.

Education

2021 – 2024	📌 Ph.D. in Computer Science. University of Lorraine, Nancy, France. Keywords: <i>Knowledge Graphs, Graph ML, LLMs, Neuro-symbolic AI.</i>
2020 – 2020	📌 Full-Stack Development Bootcamp. Le Wagon, Nantes, France. 9-week intensive coding bootcamp. Keywords: <i>HTML, CSS, JavaScript, SQL, Git, and Ruby.</i>
2016 – 2020	📌 M.Sc. in Applied Mathematics for Data Science. Centrale Nantes, France Top 10%. Keywords: <i>Machine Learning, Probability, Statistics, NumPy, pandas, scikit-learn, and Tensorflow.</i> 📌 M.Sc. in Management-Engineering. Audencia BS, Nantes, France Valedictorian. Keywords: <i>Quantitative Finance, Entrepreneurship, IT, Power BI, Tableau.</i>


Skills

Languages	📌 French (native), English (C2), Spanish (C2).
Programming	📌 Python (advanced), R (intermediate), C/C++ (intermediate).
Frameworks & Libraries	📌 Hugging Face, NumPy, pandas, PyTorch, scikit-learn.
IT Tools	📌 MongoDB, MySQL, PostgreSQL, SPARQL, SQL, PowerBI, Tableau.

Awards & Publications



Best Student Research Paper	📌 21st Extended Semantic Web Conference (ESWC 2024).
Best Resource Paper	📌 21st Extended Semantic Web Conference (ESWC 2024).
Best Research Paper	📌 23rd Int. Conf. on Knowl. Engineering and Knowl. Management (EKAU 2022).

Awards & Publications (continued)







Ph.D. of the Year  Nominated for the best Ph.D. award (to be revealed at EGC 2025).

Research Publications


Journal Articles

- 1 **Hubert, N.**, Monnin, P., Brun, A., & Monticolo, D. (2023). Sem@K: Is my knowledge graph embedding model semantic-aware? *Semantic Web*.  doi:10.3233/SW-233508
- 2 **Hubert, N.**, Monnin, P., & Paulheim, H. (2023). Beyond transduction: A survey on inductive, few shot, and zero shot link prediction in knowledge graphs (under review).  doi:10.48550/arXiv.2312.04997



International Conference Articles

- 1 **Hubert, N.**, Monnin, P., Brun, A., & Monticolo, D. (2024b). Treat different negatives differently: Enriching loss functions with domain and range constraints for link prediction. In *The Semantic Web - 21st Int. Conf., ESWC 2024, Hersonissos, Crete, Greece, May 26 - May 30, 2024, Proceedings*.  doi:10.48550/arXiv.2303.00286
- 2 **Hubert, N.**, Monnin, P., d'Aquin, M., Brun, A., & Monticolo, D. (2024). Pygraft: Configurable generation of synthetic schemas and knowledge graphs at your fingertips. In *The Semantic Web - 21st Int. Conf., ESWC 2024, Hersonissos, Crete, Greece, May 26 - May 30, 2024, Proceedings*.  doi:10.48550/arXiv.2309.03685
- 3 **Hubert, N.**, Paulheim, H., Brun, A., & Monticolo, D. (2024). Do similar entities have similar embeddings? (under review). In *The Semantic Web - 21st Int. Conf., ESWC 2024, Hersonissos, Crete, Greece, May 26 - May 30, 2024, Proceedings*.  doi:10.48550/arXiv.2312.10370
- 4 **Hubert, N.**, Paulheim, H., Monnin, P., Brun, A., & Monticolo, D. (2023, December). Schema First! Learn Versatile Knowledge Graph Embeddings by Capturing Semantics with MASCHInE. In *K-CAP 2023 - 12th Int. Conf. on Knowl. Capture*.  doi:10.1145/3587259.3627550
- 5 **Hubert, N.**, Brun, A., & Monticolo, D. (2022a, October). New Ontology and Knowledge Graph for University Curriculum Recommendation. In *ISWC 2022*.  doi:https://ceur-ws.org/Vol-3254/paper349.pdf
- 6 **Hubert, N.**, Monnin, P., Brun, A., & Monticolo, D. (2022b, September). New Strategies for Training Knowledge Graph Embeddings: the Recommendation Case. In *EKAW 2022 - 23rd Int. Conf. on Knowl. Engineering and Knowl. Management*.  doi:10.1007/978-3-031-17105-5_5


International Workshop Articles

- 1 **Hubert, N.**, Monnin, P., Brun, A., & Monticolo, D. (2022a, October). Knowledge Graph Embeddings for Link Prediction: Beware of Semantics! In *DL4KG@ISWC 2022*.  doi:https://ceur-ws.org/Vol-3342/paper-4.pdf

National Conference Articles

- 1 **Hubert, N.**, d'Aquin, M., Monnin, P., Monticolo, D., & Brun, A. (2024, July). PyGraft: un outil Python pour la génération de schémas et graphes de connaissance synthétiques. In *IC2024 : 35èmes journées francophones d'Ingénierie des Connaissances*, La Rochelle, France. Retrieved from  https://inria.hal.science/hal-04589855
- 2 **Hubert, N.**, Monnin, P., Brun, A., & Monticolo, D. (2024a, July). Enrichissement de fonctions de perte avec contraintes de domaine et co-domaine pour la prédiction de liens dans les graphes de connaissance. In *27e Conférence Nationale en Intelligence Artificielle*, La Rochelle, France. Retrieved from  https://inria.hal.science/hal-04566996

National Workshop Articles

- 1 **Hubert, N.**, Brun, A., & Monticolo, D. (2022b, January). Vers un système de recommandation explicable pour l'orientation scolaire. In *EGC 2022*.  doi:https://hal.science/hal-03559471

Teaching

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| 2024 – 2024 (16 hours) | ■ Semantic Web. University of Lorraine, Nancy, France.
M.Sc. Year 1 Teaching coordinator: Mathieu d'Aquin |
| 2023 – 2024 (48 hours) | ■ Advanced Mathematics. Lycée Henri-Poincaré, Nancy, France.
B.Sc. Year 1 Teaching coordinator: Olivier Binda |
| 2022 – 2023 (64 hours) | ■ Introduction to Java Programming. University of Lorraine, Nancy, France.
B.Sc. Year 1 Teaching coordinator: Vincent Thomas |
| 2021 – 2022 (64 hours) | ■ Advanced Database Systems. University of Lorraine, Nancy, France.
B.Sc. Year 1 Teaching coordinator: Nadia Bellalem |