

Samuel Reyd

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Télécom Paris, Institut Polytechnique de Paris

PhD student at Télécom Paris
Thesis title: Open Self-Explanation for Complex
Cyber-Physical Systems.

Education

PhD

Oct. 2023 – Expected Aug. 2026

Télécom Paris, IPP, Paris, France

- Thesis title: Open Self-Explanation for Complex Cyber-Physical Systems
- Research area: Pearl causality, XAI, cognitive relevance, complex adaptive systems.

Master's degree

Sept. 2021 – Aug. 2023

Polytechnique Montréal, Montréal, Canada

- Thesis title: Comparison and study of generalization for automatic SPARQL query generation with pre-trained language models.
- Research area: NLP, deep learning, semantic web, generalization in machine learning.

Engineer's degree

Sept. 2017 – June 2019

Télécom Paris, IPP, Paris, France

- Data science courses: convex optimization, statistics, data mining, machine learning, symbolic NLP.
- Theoretical computer science courses: logic, graph theory, advanced algorithmic, combinatorial optimization, game theories, combinatorial topology.

Teaching Experience

TA for “Introduction to AI”

Sept. 2024 – Nov. 2024

ENSTA, Paris, France

- Handled a lab and helped with course design.
- First edition of the class.
- Taught to students with no computer science experience.

Examinator for “Algorithmic Information”

Feb. 2024

Télécom Paris, IPP, Paris, France

- Evaluated student projects.

TA for “Emergence in Complex Systems”

Nov. 2023

Télécom Paris, IPP, Paris, France

- Handled lab and project sessions.
- One-week full-time class with European students.

TA for “NLP” class

Aug. 2022 – Dec. 2022

Polytechnique Montréal, Montréal, Canada

- Designed a lab on statistical information retrieval and a project on encoder-decoders for graduate students.
- Assisted students with course content, including statistical and deep learning NLP techniques.

Publications

- Samuel Reyd, Ada Diaconescu, and Jean-Louis Dessalles. “CIRCE: a Scalable Methodology for Causal Explanations in Cyber-Physical Systems”. In: *2024 IEEE International Conference on Autonomic Computing and Self-Organizing Systems (ACSOS)*. 2024, pp. 81–90. DOI: 10.1109/ACSOS61780.2024.00026
- Samuel Reyd et al. “A Roadmap for Causality Research in Complex Adaptive Systems”. In: *2024 IEEE International Conference on Autonomic Computing and Self-Organizing Systems Companion (ACSOS-C)*. 2024, pp. 35–40. DOI: 10.1109/ACSOS-C63493.2024.00027
- Papa Abdou Karim Karou Diallo, Samuel Reyd, and Amal Zouaq. “A Comprehensive Evaluation of Neural SPARQL Query Generation From Natural Language Questions”. In: *IEEE Access* 12 (2024), pp. 125057–125078. DOI: 10.1109/ACCESS.2024.3453215
- Samuel Reyd and Amal Zouaq. “Assessing the Generalization Capabilities of Neural Machine Translation Models for SPARQL Query Generation”. In: *The Semantic Web – ISWC 2023*. Cham: Springer Nature Switzerland, 2023, pp. 484–501. ISBN: 978-3-031-47240-4
- Rose Hirigoyen, Amal Zouaq, and Samuel Reyd. “A Copy Mechanism for Handling Knowledge Base Elements in SPARQL Neural Machine Translation”. In: *Findings of the Association for Computational Linguistics: ACL-IJCNLP 2022*. Online only: Association for Computational Linguistics, Nov. 2022, pp. 226–236. DOI: 10.18653/v1/2022.findings-aacl.22

Other Experiences

Subject classification of surveys

March 2022 – May 2022

NovaText, Paris, France

- 3-month mission as a student contractor.
- Classified French surveys according to domain-specific themes using distantly supervised learning.

Reception and surveillance officer

Aug. 2020

Cluny museum, national museum of middle ages, Paris, France

- Welcomed visitors, answered basic questions, ensured the safety of people and artworks, and limited people flow to respect social distancing due to COVID-19.

Associative commitment

Partnerships and business development

March 2020 - March 2021

Télécom Etude, Junior Enterprise of Telecom Paris, Paris, France

- Managed a four-person team to handle communication and partnerships.
- Designed the commercial offer in data science and practiced benchmarking, prospecting, and loyalty techniques.
- Handled projects in a regulated professional context with companies such as BCG, KPMG, or Facebook.

Web developer

Dec. 2019 – Dec. 2020

Forum Télécom Paris, school’s recruitment forum organizers, Paris, France

- Maintained and developed the showcase site and the intranet used to store and handle the data of more than a hundred companies.

Skills and interests

- **IT skills:** Python — Java — Prolog — Android — SQL — SPARQL — Git — Django — Firebase — HTML — Javascript — C — C++ — C#
- **Languages:** French: native language — English: fluent, TOEFL iBT: 106 — Japanese: beginner
- **Sports:**
Karate: 15 years of practice, Paris champion (2014 – 2016), Black belt (2016).
Volleyball: University tournament with Telecom Paris (2019 – 2020).
- **Other interests:**
End-to-end video game development, including scenario, level design, and coding.
Competitive Programming: participation in the “Prologin” contest, qualified to the regional level (2017).