Alice Rogier

Postdoctoral Researcher

Contact

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About me

Electronic Health Records (EHRs) offer a huge set of observations that can generate real-world evidence. However, these valuable data often remain unexploited, and I believe there is significant untapped potential within them.
I am eager to explore bioinformatics techniques combined with NLP tools to gain insights from these data. I find the interdisciplinary nature of medical informatics and collaboration with experts from various fields enriching.
Being a team player, I enjoy actively contributing to a group's efforts. Outside of work, you can find me dancing or hiking.

Programming Languages

R, Python

Query Languages

SQL, SPARQL

Research Expertise

Knowledge graph, Survival analysis, Statistical learning, Text mining

Hobbies

Modern jazz
Hiking

Education

2020-2024 PhD in Medical Informatics *Université Paris Cité*

2017-2019 MSc in Bioinformatics *Université Paris-Saclay*

2016-2017 BSc in Organism Biology and Ecology *Université Paris-Saclay*

Professional experiences

Since Nov 2024 **Postdoctoral Researcher** *Carpem Cancer Institute, Paris*
I am currently structuring and integrating chemotherapy data within the CARPEM Master Observational Trial.

Dec 2020 - Oct 2024 **PhD student** *Inserm-Inria HeKA Team*
Clinical data warehouses hold important information about chemotherapies and their effects, but it is often scattered and hard to interpret. To make use of these valuable data, I developed two knowledge graphs, OntoTox [4] and ChemoOnto [5, 1]. These graphs organize data on chemotherapy treatments and toxicities, facilitating comparisons between theoretical treatment protocols and actual patient outcomes. I created the ProtoDrift metric to quantify deviations in chemotherapy protocols, thus refining adherence assessments. I validated ProtoDrift through survival analyses, showcasing its potential in advancing precision oncology research.

Nov 2019 - Dec 2020 **Research Engineer** *Inserm, Paris Georges Pompidou hospital*
I took part in the QualiHealth project aimed at improving the quality of healthcare data. I developed text mining tools to extract information from medical narrative reports during the COVID crisis. [3] I helped with the implementation of OntoDol. [6]

Mar - Aug 2019 **Intern** *Inserm, Paris Georges Pompidou hospital*
High-Throughput Phenotyping for glomerular diseases

Jul - Aug 2018 **Intern** *Parasitology Unit of the Center Dr. Hideyo, Mexico*
Identification of blood meals from *Triatomia dimidiata* in the Yucatán.

Jun - Aug 2017 **Intern** *EcoSys laboratoty, INRA.*
Characterization of metal contaminations in urban farm soils.

Teaching

Falls 2021 and 2022, 48h **Supervisor for Practical Work (L1)** *Université Paris Cité*
Supervision of practical work for first-year MIASH (Applied Mathematics for Social Sciences) students.

Spring 2023, 24h **Supervisor for Practical Work (L2)** *Université Paris Cité*
Supervision of 6 groups of 4-5 students in the second year of computer science, working on GUI (Graphical User Interface) projects based on two topics that I have written.

Spring 2022, 24h **Supervisor for Practical Work (L3)** *Université Paris Cité*
Supervision of database practical work for third-year computer science students (L3).

Talk and events

Type	Event	Date
Poster	AI4Health 2021	04/01/2021
Oral presentation	HeKA team meeting	15/02/2021
Oral presentation	HeKA team meeting	13/09/2021
Poster	CRC scientific day	23/09/2021
Oral presentation	MedInfo 2021	02/10/2021
Second Best Student paper		
Poster	AI4Health 2022	12/01/2022
Oral presentation	Bernoulli Lab kick-off (APHP-Inria)	22/03/2022
Oral presentation	CRC scientific day	22/09/2022
Poster	ISMB/ECCB 2023 Lyon	25/07/2023
Oral presentation	ISMB/ECCB 2023 Lyon	25/07/2023

References

Bastien Rance, AP Hôpital Georges Pompidou
bastien.rance@aphp.fr

Adrien Coulet, AP Université de Lorraine, researcher at Inria Paris
adrien.coulet@inria.fr

Scientific publications

[1] Jong Ho Jhee et al. "Representation and comparison of chemotherapy protocols with ChemoKG and graph embeddings". In: *SWAT4HCLS*. 2024.

[2] Antoine Neuraz et al. "Facilitating phenotyping from clinical texts: the medkit library". In: *Bioinformatics* (2024), btae681.

[3] Antoine Neuraz et al. "Natural language processing for rapid response to emergent diseases: case study of calcium channel blockers and hypertension in the COVID-19 pandemic". In: *Journal of medical Internet research* 22.8 (2020).

[4] Alice Rogier, Adrien Coulet, and Bastien Rance. "Using an ontological representation of chemotherapy toxicities for guiding the information extraction and integration from EHRs". In: *MedInfo* (2021).

[5] Alice Rogier, Bastien Rance, and Adrien Coulet. *ChemoOnto, an ontology to qualify the course of chemotherapies*. Jan. 2024. DOI: 10.5281/zenodo.10548491. URL: https://doi.org/10.5281/zenodo.10548491.

[6] Alexandre Saadi et al. "Design of an Ontology-Based Triage System for Patients with Chronic Pain". In: *MEDINFO 2021: One World, One Health–Global Partnership for Digital Innovation*. IOS Press, 2022, pp. 81–85.