Postdoc position in applied machine learning for translational oncology

Location: Institut de Cancérologie de l'Ouest, Angers/Nantes, France
Contract Type: Full-time Postdoctoral Fellowship
Start Date: January 1st 2026, for 2 years
Application deadline: November 30, 2025

About Us

The Institut de Cancérologie de l'Ouest (ICO) is a leading cancer research and treatment center in France. Our multidisciplinary research team (Omics and Data Science Unit) - comprising bioinformaticians, mathematicians, a biologist, and a medical biologist - works at the intersection of data science, artificial intelligence, and biomedical research. We aim to develop cutting-edge computational tools to advance precision medicine for cancer patients.

Position Overview

We are seeking a highly motivated early-career postdoctoral researcher with a strong background in computer science, machine learning, or data engineering. No prior experience in biology is required.
The successful candidate will lead a project within PRECIZE, part of the SIRIC ILIAD program funded by INCa (French National Cancer Institute). The goal is to develop novel computational frameworks to predict and characterize high-risk relapse patients in the context of emerging therapeutic strategies. The position also involves collaboration with the LERIA laboratory (Laboratoire d'Études et de Recherche en Informatique d'Angers).

Key Responsibilities

- Design and implement scalable software pipelines for biological data analysis, with a focus on processing and modeling high-dimensional tabular data formats such as gene expression matrices.
- Develop machine learning models for classification, prediction, and feature extraction.
- Apply and adapt multi-task learning (MTL) techniques to integrate heterogeneous data sources.
- Collaborate with domain experts to interpret results and refine models.
- Contribute to publications and open-source tools.

Required Qualifications

- PhD in Computer Science, Machine Learning, Data Science, or related field.
- Strong programming skills (Python, R, or equivalent).
- Experience with Machine Learning frameworks (e.g., PyTorch, TensorFlow, scikit-learn).
- Solid understanding of supervised learning, model evaluation, and optimization.
- Ability to work independently and in a collaborative research environment.

Desirable Skills

- Familiarity with multi-modal learning.
- Interest in biomedical applications or healthcare data.
- Experience with large-scale data integration or distributed computing.

Focus Areas

This position emphasizes:

- MTL: Designing models that learn shared representations across multiple related prediction tasks.
- Multi-omics data integration: combining transcriptomics, radiomics and/or proteomics data to uncover actionable insights in cancer biology.

How to Apply

Please send your CV, cover letter, and contact information for two references to:
agnes.basseville@ico.unicancer.fr and **pascal.jezequel@ico.unicancer.fr**