NOVARTIS

Senior Data Scientist - (AI / ML Omics Data - Immunology)

Job ID
REQ-10028991
Dec 09, 2024
Switzerland

Summary

The Immunology Disease Area in Biomedical Research at Novartis is seeking a senior data scientist with a strong background in machine learning (ML) to lead the analysis and interpretation of biomedical data using state-of-the-art artificial intelligence (AI) approaches, with the goal of advancing our drug discovery pipeline for immune-mediated diseases.

Our Data Science team focuses on the application of translational bioinformatics and data analytics to clinical and preclinical programs in rheumatology, dermatology and nephrology. We apply computational biology and machine learning approaches to multiple data types to enable strategies for disease understanding, target identification, biomarker discovery, indication selection, and patient stratification.

About the Role

Responsibilities:

- Lead the integration and analysis of multi-modal data such as genetics, bulk, single cell and spatial transcriptomics, proteomics, imaging, and clinical data to build predictive models for target discovery, compound prioritization, disease progression and treatment response.
- Develop and apply advanced ML and AI algorithms tailored to biomedical data, including deep learning models, to derive actionable insights from complex datasets.
- Develop scalable data pipelines and deploy ML models in production environments.
- Stay abreast of the latest advancements in ML and AI, and continually integrate new methodologies and technologies into research projects.
- Leverage collaborative interfaces across and outside of Novartis to maximize the impact of AI for Immunology.
- Communicate complex ML and AI concepts and findings effectively to a diverse audience through presentations and publications.

Qualifications:

- PhD in data science, machine learning, artificial intelligence, bioinformatics, computational biology, or a related field, with substantial postdoctoral experience in academia or the pharmaceutical industry.
- Solid understanding of biology and immunology, ideally with prior experience in translational research.
- Experience in the application of supervised, unsupervised, semi-supervised, self-supervised,

reinforcement and/or transfer learning methods to high-dimensional biomedical data.

- A track record in the successful implementation of deep learning models such as convolutional, recurrent and graph neural networks, generative adversarial networks, autoencoders and transformers.
- Proven familiarity with omics data types such as genetics, bulk, single cell and spatial transcriptomics, and proteomics.
- Proficiency in R and/or Python for statistical programming, bioinformatics (e.g., Bioconductor, Seurat, Scanpy, scVI-tools), ML (e.g., caret, tidymodels, scikit-learn, PyTorch, TensorFlow), reproducible research (e.g., R Markdown, Jupyter Notebooks) and web app development (e.g., Shiny, Dash).
- Experience with the Linux command line, high-performance computing environments, and cloud computing platforms such as AWS, Microsoft Azure and Google Cloud.
- Excellent interdisciplinary communication skills and proficiency in English (oral and written).

Novartis is committed to building an outstanding, inclusive work environment and diverse teams representative of the patients and communities we serve

Why Novartis: Helping people with disease and their families takes more than innovative science. It takes a community of smart, passionate people like you. Collaborating, supporting and inspiring each other. Combining to achieve breakthroughs that change patients' lives. Ready to create a brighter future together? https://www.novartis.com/about/strategy/people-and-culture

Join our Novartis Network: Not the right Novartis role for you? Sign up to our talent community to stay connected and learn about suitable career opportunities as soon as they come up: https://talentnetwork.novartis.com/network

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Business Unit
Pharma Research
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Switzerland
Site
Basel (City)
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C028 (FCRS = CH028) Novartis Pharma AG
Functional Area
Data and Digital
Job Type
Full time
Employment Type
Regular
Shift Work
No
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