Biomedical AI Methods Expert

Job ID
REQ-10066011

11月 08, 2025

Switzerland

摘要

Novartis has embraced a bold strategy to drive a company-wide digital transformation. Our objective is to position Novartis as an industry leader by proactively adopting digital technologies that foster innovative approaches to hasten drug discovery and development. By utilizing both internal and external Research & Development data with the power of data science, predictive models, generative AI, and machine learning, our objective is to identify new targets, create more effective therapeutic molecules, better predict drug pharmacokinetics and safety risks, refine clinical trial design, and significantly shorten development cycles. The Artificial Intelligence & Computational Sciences (AICS) team leads Biomedical Research (BR) in exploring and applying advanced AI and ML methodologies to generate novel drug discovery insights, and to speed and improve drug discovery efficiency whilst focusing on patients ' needs.

AICS partners with drug discovery teams, raises the level of AI expertise across BR and ensures that BR science keeps up with the rapidly evolving ecosystem of AI technologies by connecting with AI leaders in academia and industry.

This role within the AI Methods group of AICS will be tasked with critical assessment of the model landscape, identifying opportunities for methodological innovation, and building the right AI

approaches, algorithms, models and workflows to maximize impact on key domains areas of biomedical research that will potentially lead to developing better drugs, faster.

About the Role

Responsibilities:

- Work with a team of AI researchers, data scientists and SMEs with core domain expertise to develop and deliver focused, robust, performant AI algorithms and solutions to accelerate drug discovery.
- Stay informed about the latest AI methods, increase understanding of the problem domain, and ask detailed questions to identify potential areas for innovation in AI across the drug discovery pipeline.
- Promote awareness of advancements in AI methods for addressing key research questions within biomedical research.
- Fluently adopt Engineering and Product Development resources to ensure the adoption of AI solutions.
- Help position AI-aided drug discovery contributions to deliver and support progress of BR ' s portfolio, enable new kinds of therapeutic discoveries, shorten cycle times, and increase efficiency.

Collaboration & partnership

- A respectful, team-player attitude is an absolute must.
- Regularly communicate, engage, align with AICS teams, broader data science community, and senior scientists.
- Initiate and lead key high-value internal collaborations across BR.
- Help design translatable metrics for AI models that will lead to tangible impact in collaboration with BR DAs and FAs.
- Collaborate cross-functionally to translate model outputs into actionable hypotheses and guide experimental design.

What you ' ll bring to the role:

- 4+ years of significant experience in innovation, development, deployment and continuous support of Machine Learning and modeling.
- Strong hands-on coding proficiency in Python and deep learning frameworks and an expertise

in bringing advanced analytics insights and actions to a large research organization
- Wide exposure to representation learning, deep generative modeling, probabilistic reasoning, and explainability approaches. with a deep passion for understanding and explaining the technical concepts underlying ML approaches.
- Strong understanding and experience in using version control systems for developing software (e.g. GitHub, git, subversion, bitbucket, etc.) with expertise in large-scale model training, distributed computation, and foundation model adaptation.
- Publications, patents, or open-source contributions that demonstrate machine learning innovation and expertise, with passion for understanding emerging technologies and how they can integrate into business solutions
- Ability to balance requirements, manage expectations, and drive effective results using a proactive can-do attitude towards identifying and resolving issues, as well as a proven ability to work exceptionally well within complex matrixed teams.
- A deep curiosity and passion for biomedical sciences driven therapeutic discovery.

Nice to have:

- Experience with applying ML to one or more functional areas of core drug discovery like target identification, computational chemistry, protein structure modelling and design or translational medicine is a plus.

Commitment to Diversity & Inclusion:

We are committed to building an outstanding, inclusive work environment and diverse teams representative of the patients and communities we serve.

Benefits and rewards:

Read our handbook to learn about all the ways we ' ll help you thrive personally and professionally:

https://www.novartis.com/careers/benefits-rewards

For Basel, Switzerland:
Switzerland Accessibility and accommodation

Novartis is committed to working with and providing reasonable accommodation to all individuals. If, because of a medical condition or disability, you need a reasonable accommodation for any part of the recruitment process, or in order to receive more detailed information about the essential functions of a position, please send an e-mail to diversity.inclusionch@novartis.com and let us know the nature of your request and your contact information. Please include the job requisition number in your message.

Relevant areas of desired expertise:

Transformer architectures (Text, Vision, DNA/amino-acid sequences, Gene expression vectors); Long-context transformers and efficient attention mechanisms; diffusion models; flow matching; energy-based models; multimodal architectures; graph neural networks; geometric deep learning; Bayesian optimization; Reinforcement learning; Active learning; Variational Inference; Self-supervised learning; Contrastive learning; Domain adaption; Test-time adaptation

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

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Benefits and Rewards: Read our handbook to learn about all the ways we 'll help you thrive personally and professionally: https://www.novartis.com/careers/benefits-rewards

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Biomedical Research

Business Unit
Pharma Research

地点
Switzerland

站点
Basel (City)

Company / Legal Entity
C028 (FCRS = CH028) Novartis Pharma AG

Alternative Location 1
Cambridge (USA), Massachusetts, USA

Alternative Location 2
Dublin (NOCC), Ireland

Alternative Location 3
Hyderabad (Office), India

Functional Area
Data and Digital

Job Type
Full time

Employment Type
Regular

Shift Work
No

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