NOVARTIS

Director, AI and Machine Learning for Biology

Job ID
REQ-10089084
Oct 20, 2026
LOC_US

About the Role

Internal Job Title: Director Data Science

Position Location: San Diego, California, onsite

About the Role:

DARe is building an AI-enabled discovery engine that integrates longitudinal human data, genetics, multi-omics, imaging, and advanced biological models to uncover causal drivers of aging, resilience, and regeneration. Our goal is to translate these insights into differentiated novel therapeutic targets and medicines for age-related diseases.

We are seeking an exceptional scientific and technical leader to shape DARe's global Data Science & AI strategy and build our US capability in San Diego. The successful candidate will combine strategic leadership with technical depth to guide high-impact AI programs, connect computational and experimental science, and translate emerging capabilities into meaningful drug-discovery decisions.

Key Responsibilities:

- Lead the US DARe Data Science & AI efforts and shape the global AI and ML strategy
- Define a prioritized portfolio of Data Science & AI initiatives, establish clear measures of scientific and operational impact, and ensure that investments translate into better target decisions, stronger experimental design, and accelerated discovery.
- Co-shape and drive data science and AI efforts supporting target identification, target prioritization, and validation across disease programs and contribute to the DARe long-term scientific AI vision
- Lead the development and application of biological foundation models, multimodal learning, biomedical knowledge graphs, and agentic workflows to drive evidence integration and target prioritization
- Work at the intersection of human genetics, longitudinal clinical trajectories, proteomics, transcriptomics, metabolomics, imaging, and electronic health record data.
- Build, lead, and develop a high-performing US-based team spanning applied AI, machine learning, computational biology, and data science, while creating meaningful growth opportunities for early-career talent.
- Evaluate emerging technologies and establish external partnerships that accelerate DARe's AI capabilities.
- Translate scientific questions into computational strategies, selecting fit-for-purpose statistical, machine learning, AI,

and bioinformatics approaches.

- Build strong organizational connectivity to ensure effective collaboration, knowledge sharing, and execution and foster a one-team culture across geographies and scientific disciplines
- Drive AI adoption across the department
- Partner closely with internal functions including Data and Digital, Discovery Sciences and Disease areas

Essential Requirements:

- PhD in Machine Learning, Computational Biology, Data Science, Computer Science, Systems Biology or a related quantitative discipline combined with a deep understanding of biology
- 10+ year experience applying advanced computational and AI approaches to biomedical research, drug discovery, or translational medicine.
- Proven success leading multidisciplinary global teams across AI, human data, and experimental science
- Demonstrated experience developing or applying advanced machine-learning approaches to complex biological data, such as foundation models, representation learning, generative models, or multimodal learning across sequence, single-cell, spatial, imaging, or other biomedical data.
- Strong working knowledge of deep learning, representation learning, multi-modal AI, generative AI, large-scale biological data modeling
- Strong experience in large-scale model training, distributed computation, model adaptation, and deployment within machine learning operations frameworks
- Strong coding proficiency in Python and deep learning frameworks, with experience using version control systems.
- Experience with omics data (transcriptomics, proteomics, metabolomics) and cellular imaging data
- Ability to lead and influence across matrix organizations with exceptional communication and stakeholder management skills.
- Demonstrated ability to operate effectively in a fast-paced and highly collaborative research environment.

Desirable Requirements:

- Expertise in statistical genetics, including genome-wide association studies, rare variants, Mendelian randomization, colocalization, or fine-mapping
- Understanding of modern data foundations including ETL/ELT pipelines, biomedical ontologies, metadata standards, data governance, and FAIR data principles.
- Expertise in diseases of aging, neurodegeneration, cardiometabolic disease, regeneration biology, or related therapeutic areas.
- Experience with knowledge graph technologies and scientific knowledge integration platforms.
- Experience with developing biological aging clocks

Compensation and Benefits:

The salary for this position is expected to range between $194,600 and $361,400 per year. The final salary offered is determined based on factors like, but not limited to, relevant skills and experience, and upon joining Novartis will be reviewed periodically. Novartis may change the published salary range based on company and market factors.

Your compensation will include a performance-based cash incentive and, depending on the level of the role, eligibility to be considered for annual equity awards.

US-based eligible employees will receive a comprehensive benefits package that includes health, life and disability benefits, a 401(k) with company contribution and match, and a variety of other benefits. In addition, employees are eligible for a generous time off package including vacation, personal days, holidays and other leaves.

To learn more about the culture, rewards and benefits we offer our people click here.

Role Requirements

Division
DIV_RE
Business Unit
Research
Location
LOC_US
Site
LaJolla/SD
Company / Legal Entity
U175 (FCRS = US175) Novartis Institutes for BioMedical Research, Inc.
Functional Area
FCT_DD
Job Type
Full time
Employment Type
Regular
Shift Work
No
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