

Director, Precision Medicine Data Science & AI

Job ID

REQ-10078104

May 14, 2026

LOC_US

About the Role

Key Responsibilities:

- Lead end-to-end development and deployment of patient identification, HCP targeting AI/ML, ensuring clinical validity and commercial impact across therapeutic areas.
- Design clinical decision support (CDS) algorithms to improve patient outcomes via accelerating time to diagnosis, and treatment leveraging real-world data sources including claims, EHR, lab, genomic, patient generated health data, and registry data. Own and advance external partnership strategies with health systems, AI/CDS vendors to integrate these algorithms into clinical workflows leading to measurable impact on clinical outcomes.
- Architect scalable model lifecycle frameworks — from ideation through development, validation, deployment, monitoring, optimization, and sunseting — ensuring governance, fairness, and reproducibility.
- Navigate regulatory and compliance requirements related to AI/ML in healthcare, including FDA CDS guidance frameworks, HIPAA, and anti-kickback safe harbor considerations.
- Collaborate cross-functionally with Brand/Marketing, Medical Affairs, HEOR, Legal/Compliance, Field Teams, and Patient Support to translate clinical and commercial needs into actionable AI/ML solutions.
- Drive integration of advanced AI technologies including large language models (LLMs), generative AI, deep learning, and foundation models into precision medicine workflows where applicable.
- Develop go-to-market frameworks and field activation resources that enable model-adjacent materials for commercial teams to act on model outputs.
- Champion a culture of experimentation, continuous improvement, and scientific rigor — contributing to peer-reviewed publications, conference presentations, and open-source model externalization where appropriate.
- Operate with a high level of autonomy and self-direction, proactively identifying opportunities, managing ambiguity, and driving initiatives forward without close supervision.
- Serve as a thought leader within Strategy, Platforms & Transformation and across the Novartis US organization on the convergence of AI, real-world data, and precision medicine in commercial pharma.

Essential Requirements:

- Master's degree required; PhD or doctoral degree preferred. Relevant fields: Data Science, Computer Science, Bioinformatics, Health Informatics, Computational Biology, Statistics, Epidemiology, or related quantitative/health sciences discipline. Clinical or health-focused education or research background is a plus.
- Minimum 10+ years of experience in data science, AI/ML, or digital health, with at least 5 years in pharmaceutical, medical device, health-tech, or digital health settings.
- Demonstrated hands-on expertise building and deploying machine learning models (classification, NLP, deep learning, recommendation systems) using Python, Spark, TensorFlow, PyTorch, or equivalent.
- Experience designing and executing model validation frameworks — ensuring accuracy, reliability, clinical validity, and reproducibility of AI/ML algorithms prior to clinical or commercial deployment
- Proven experience with cloud-based ML infrastructure (AWS, Azure, GCP) for scalable model deployment.
- Deep working knowledge of healthcare data: EHR (structured and unstructured), medical/pharmacy claims, lab results, genomic data, and patient registries.
- Working knowledge of clinical terminologies and coding systems (e.g., ICD-10, SNOMED CT, LOINC, RxNorm, CPT) used in model feature engineering and clinical data interpretation
- Proven ability to communicate complex AI/ML concepts and strategies to senior executive leadership and non-technical audiences, translating technical outputs into business value narratives.

- Experience implementing or partnering on AI/ML solutions in clinical or healthcare delivery settings, including clinical decision support integration into EHR workflows.
- Track record managing external partnerships with health systems, AI/CDS vendors, EHR platforms, data aggregators, or digital health companies.
- Working knowledge of regulatory and compliance landscape for AI in healthcare: FDA CDS frameworks, HIPAA, anti-kickback statutes.
- Experience working in complex, matrixed organizational environments with demonstrated ability to influence without authority across commercial, medical, legal, and technical stakeholders.
- Knowledge of large language models (LLMs) such as GPT, BERT, Cohere, and their practical applications in healthcare and commercial pharma.

Desirable Requirements:

- External thought leadership (publications, conference presentations, industry working groups) is a plus.

Novartis Compensation Summary:

The salary for this position is expected to range between \$194,600.00 and \$361,400.00 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.

Role Requirements

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>

Benefits and Rewards: Learn about all the ways we'll help you thrive personally and professionally.

[Read our handbook \(PDF 30 MB\)](#)

Division

DIV_IU

Business Unit

Marketing

Location

LOC_US

Site

East Hanover

Company / Legal Entity

U014 (FCRS = US014) Novartis Pharmaceuticals Corporation

Functional Area

FCT_DD

Job Type

Full time

Employment Type

Regular

Shift Work

No

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