NOVARTIS

Data Scientist, AI for Biomedical Imaging

Job ID
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США

Сводка

The mission of Novartis is to reimagine medicine, and our team advances that mission by applying advanced image analysis, computer vision, and AI methods to early drug discovery. We partner closely with experimental scientists, disease-area teams, data scientists, bioinformatics experts, and platform engineers to extract meaningful biological insight across diverse imaging modalities (high-content screening, custom microscopy platforms) and biological model systems (cellular assays, co-cultures, organoids, tissue models).

To grow this capability, we are seeking a seasoned, innovative, and collaborative data scientist with deep expertise in AI-enabled image analysis to join the Data Science team in Discovery Sciences (DSc) at Novartis Biomedical Research, Cambridge, MA. This role combines hands-on delivery of robust image analysis workflows with advanced AI method development, including biomedical image segmentation, representation learning, foundation models, and scalable deployment. The successful candidate will embed within the research community as the team's scientific lead for imaging-AI, partnering directly with wet-lab scientists to translate complex biological questions into rigorous, reproducible, and impactful analysis strategies.

About the Role

Internal Job Title: Senior Expert I/II, Data Science

Position Location: Onsite, Cambridge, MA #LI-Onsite

Role Responsibilities:

- Lead AI-enabled image analysis strategies for complex biological imaging workflows, acting as the embedded imaging-AI scientific partner working side-by-side with wet-lab scientists to understand emerging assay needs, align approaches with scientific priorities and platform standards, and explain advanced AI concepts in accessible terms.
- Identify high-impact opportunities where AI can deliver meaningful scientific value and define rigorous benchmarking and evaluation strategies to guide method selection.
- Develop, validate, and deploy robust image analysis algorithms to characterize cellular, organoid, tissue, and other complex biological phenotypes in high-throughput and high-content imaging data, generating reproducible outputs that support decision-making in drug discovery projects.
- Drive adoption of advanced AI methods for imaging, including deep learning, vision foundation models, embedding-based phenotyping, segmentation, classification, and multimodal integration, translating state-of-the-art methods into practical, validated workflows that augment expert review and enable scalable interpretation of large, high-dimensional datasets.
- Contribute to scalable, reusable image analysis workflows in partnership with other data scientists, data engineering, and platform teams, championing best practices across the workflow lifecycle.

Essential Requirements:

- PhD in computer science, AI, machine learning, biomedical image analysis, computational imaging, data science, or a related quantitative field, with 3+ years of applied experience in AI for bioimaging and computer vision.
- Demonstrated experience developing and validating image analysis algorithms for biological, biomedical, or pharmaceutical research applications, with practical experience in image segmentation, feature extraction, phenotypic profiling, object classification, or representation learning applied to high-content or high-throughput imaging data.
- Practical expertise in designing benchmarking and evaluation strategies to compare image analysis methods and guide rigorous, evidence-based model selection.
- Ability to work effectively in Linux-based high-performance computing, cloud, or large-scale data processing environments, with a strong commitment to reproducible research, version control, testing, and data provenance.
- Strong proficiency in Python and the scientific deep learning stack (e.g., PyTorch, Hugging Face, Lightning, MONAI), along with hands-on experience using image analysis tools such as scikit-image, OpenCV, napari, Cellpose, StarDist, InstanSeg, and OME-Zarr.
- Self-motivated experienced contributor who thrives in a collaborative, multidisciplinary environment with biologists, imaging scientists, software engineers, and bioinformatics partners, working with appropriate independence and helping shape project direction through both technical expertise and scientific judgment.
- Excellent scientific communication and stakeholder engagement skills, including the ability to explain complex AI and image analysis concepts to experimental scientists, project teams, engineers, and non-technical audiences.

Desirable Requirements:

- Experience developing or adapting foundation models, self-supervised learning approaches, multimodal AI models, or embedding-based analysis methods (e.g., DINO, CLIP, SAM) for biological imaging data.
- Familiarity with the drug discovery pipeline, phenotypic screening, translational biology models, or pharmaceutical research processes.
- Demonstrated success in turning project-specific solutions into reusable, scalable workflows or standardized analysis products integrated into enterprise platforms, production pipelines, or user-facing tools.
- Track record of scientific publication, conference presentations, open-source contributions, or internal technical leadership in AI, computer vision, biomedical image analysis, or related fields.
- Familiarity with agentic coding tools and AI-assisted development workflows (e.g., Claude Code, Copilot).

Compensation & Benefits:

The salary for this position is expected to range between $126,000 and $234,000 USD annually for Senior Expert I, Data Science, and $138,600 and $257,400 USD annually for Senior Expert II, Data Science. 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.

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)

EEO Statement:

The Novartis Group of Companies are Equal Opportunity Employers. We do not discriminate in recruitment, hiring, training, promotion or other employment practices for reasons of race, color, religion, sex, national origin, age, sexual orientation, gender identity or expression, marital or veteran status, disability, or any other legally protected status.

Accessibility & Reasonable Accommodations

The Novartis Group of Companies are committed to working with and providing reasonable accommodation to individuals with disabilities. If, because of a medical condition or disability, you need a reasonable accommodation for any part of the application process, or to perform the essential functions of a position, please send an e-mail to us.reasonableaccommodations@novartis.com or call +1(877)395-2339 and let us know the nature of your request and your contact information. Please include the job requisition number in your message.

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Employment Type
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Shift Work
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