

Expert II Data Science, Capsid Engineering

Job ID

REQ-10050725

Jun 26, 2025

USA

Summary

This position will be located at the San Diego site and will not have the ability to be located remotely. Please note that this role would not provide relocation and only local candidates will be considered.

Internal Title: Expert II Data Science

We are currently recruiting a highly motivated and independent Expert II Data Science to join our team in San Diego to help expand our platform development efforts. This position is focused on AAV capsid engineering and AAV vector characterization, which will be used for developing next-generation gene therapies for neuromuscular and neurogenetic diseases. This position requires an in-depth understanding of computational biology methods, next-generation sequencing, AAV biology, and protein engineering. This role will be working closely with wet-lab biologists to develop novel methods for AAV engineering and sequencing. Wet-lab experience and intimate knowledge of sequencing library protocols and related technologies is highly preferred.

About the Role

Key Responsibilities:

- Analyzing data from directed evolution campaigns and designing AAV capsid libraries using statistical and machine learning models.
- Custom software development for analysis and machine learning-based engineering of screened capsid sequences and *in-silico* design of novel capsid variants.
- Development of new experimental methods for preparing Illumina and long read sequencing libraries in the lab.
- Maintaining up-to-date knowledge of emerging technologies and scientific approaches in the field of gene therapy.
- Preparing summaries of data and present internally to colleagues and management.
- Drafting SOPs, following protocols, diligently documenting experimental data in electronic lab notebooks, and authorizing scientific reports for internal documentation or regulatory submissions.
- Leading and contributing to publications and presentations at industry conferences and/or business meetings.
- Actively supporting a culture of innovation, learning, respect, and trust.

Essential Requirements:

- Educational Background: Ph.D. Bioinformatics, Computational Biology, Computer Science (recent Ph.D. welcome to apply) OR MS degree in bioinformatics, computational biology, computer science, structural

- biology or a related field with 4 years of relevant industry research experience
- Proficiency in Python and/or R programming languages.
- Prior experience in analyzing Illumina next-generation sequencing data from run QC, read preprocessing, analysis pipeline, and generation of final reports with interpretation and plots.
- Experience with workflow management software such as Snakemake or Nextflow.
- Experience with Amazon Web Services usage for cloud computing workflows and associated programming APIs.
- Machine learning and statistical model experience with biological sequences.
- Independent and critical thinker, multi-tasker, and problem solver with strong verbal and written communication skills, and a team-first mindset.

Desirable Requirements:

- Professional software engineering experience with version control, testing, and code reviews is strongly preferred.
- Familiarity with long read sequencing is a plus.
- Prior wet-lab experience in molecular biology and preparing sequencing libraries.
- A record of productivity and scientific excellence based on consistent high-impact publications, patents, and/or external presentations.

Novartis Compensation and Benefit Summary: The pay range for this position at commencement of employment is expected to be between: \$103,600 and \$192,400/year; however, while salary ranges are effective from 1/1/25 through 12/31/25, fluctuations in the job market may necessitate adjustments to pay ranges during this period. Further, final pay determinations will depend on various factors, including, but not limited to geographical location, experience level, knowledge, skills, and abilities. The total compensation package for this position may also include other elements, including a sign-on bonus, restricted stock units, and discretionary awards in addition to a full range of medical, financial, and/or other benefits (including 401(k) eligibility and various paid time off benefits, such as vacation, sick time, and parental leave), dependent on the position offered. Details of participation in these benefit plans will be provided if an employee receives an offer of employment. If hired, employee will be in an “at-will position” and the Company reserves the right to modify base salary (as well as any other discretionary payment or compensation program) at any time, including for reasons related to individual performance, Company or individual department/team performance, and market factors.

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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Division

Biomedical Research

Business Unit

Pharma Research

Location

USA

State

California

Site

San Diego (California)

Company / Legal Entity

U175 (FCRS = US175) Novartis Institutes for BioMedical Research, Inc.

Functional Area

Data and Digital

Job Type

Full time

Employment Type

Regular

Shift Work

No

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