

Scientific Computing Engineer - Drug Product Process Modeling & Data Science

Job ID

REQ-10087078

Sep 30, 2026

LOC_IN

About the Role

Major Accountabilities

- Develop and apply mechanistic, empirical, statistical, and hybrid modeling approaches to support drug product formulation and process development, especially for process understanding, scale-up, and manufacturing-relevant questions.
- Translate formulation and process questions into model- and data-ready problem statements; define success criteria, assumptions, and uncertainty considerations with subject-matter experts.
- Apply statistics, Design of Experiments, multivariate analysis, and data-driven modeling to plan experiments, analyze results, and accelerate learning cycles.
- Build predictive models and decision-support tools for key drug product unit operations, with particular interest in oral solid dosage forms, powder technology, formulation, and process engineering.
- Build end-to-end data science solutions including data preparation, exploratory analysis, modeling, validation, deployment, and lifecycle management, with a focus on transparency and reproducibility.
- Create clear visualizations, dashboards, and technical narratives to communicate insights and support decision making for diverse stakeholders.
- Contribute to automation and AI-assisted workflows for data preparation, modeling, analysis, and reporting, while maintaining scientific oversight and practical usability.
- Contribute to knowledge sharing, documentation, internal standards, and reusable modeling/AI assets within the global modeling and digital community.

Essential Skills

- Master's degree or PhD in mechanical engineering, process engineering, chemical engineering, pharmaceutical engineering, materials science, applied mathematics, statistics, data science, or a closely related quantitative engineering discipline.
- Early-career profile preferred, typically with 2–4 years of relevant industry experience after a master's degree or 0–4 years after a PhD, and a clear motivation for hands-on modeling, coding, and applied problem solving.
- Core skills
- Strong engineering and mathematical foundation, including process science, transport phenomena, statistics, numerical methods, and/or mechanistic modeling.
- Must have hands-on programming experience in Python or a similar programming language, with the ability and motivation to become productive in Python very quickly if not already fluent.
- Experience applying statistics, DoE, data analysis, simulation, optimization, and/or machine learning to engineering or scientific problems.
- Ability to work with experimental and industrial datasets, including data cleaning, exploratory analysis, and uncertainty-aware interpretation including model credibility assessments according to regulatory guidelines & standards.
- Strong communication skills to explain technical concepts to non-experts and influence decisions.
- Digital & AI capabilities (beneficial; can be developed on the job)
- Basic experience with machine learning, model evaluation, or AI-enabled analytics is an advantage, but less important than strong engineering fundamentals, coding ability, and learning agility.
- Interest in AI-assisted modeling, automation, and agent-based workflows, with willingness to learn and apply these methods in a scientifically rigorous way.

- Understanding of model lifecycle management, reproducibility, and deployment considerations in regulated environments.
- Experience with visualization and storytelling, such as dashboards or clear technical reporting.

Desirable Skills

- Experience or academic exposure to powder technology, formulation science, oral solid dosage forms, pharmaceutical unit operations, process modeling tools, PBM, DEM, gPROMS, or digital twins.
- Exposure to QbD principles, PAT concepts, or regulatory-relevant modeling activities.
- Experience working in global matrix organizations.

Role Requirements

Division

DIV_GD

Business Unit

Development

Location

LOC_IN

Site

Hyderabad (Office)

Company / Legal Entity

IN10 (FCRS = IN010) Novartis Healthcare Private Limited

Functional Area

FCT_DD

Job Type

Full time

Employment Type

Regular

Shift Work

No

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