NOVARTIS

Scientific Computing Engineer - Drug Product Process Modeling & Data Science

Job ID
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Сводка

We are looking for a hands-on Scientific Computing Engineer to strengthen process modeling, statistics, and data science capabilities in Drug Product development. This role is intended for an early-career engineer with a strong quantitative foundation, practical programming skills, and the ability to translate formulation and process questions into data- and model-based solutions.
The ideal candidate has a background in mechanical engineering, process engineering, chemical engineering, or a closely related engineering discipline, and is motivated to work at the interface of pharmaceutical formulation, powder technology, process understanding, statistics, and modern data science.
Experience with AI or machine learning is welcome, but not the primary selection criterion. We expect that a candidate with strong engineering judgment, solid mathematics, and a fast-learning mindset can acquire the required AI methods on the job.
What you will do
You will work hands-on with formulation scientists, process engineers, data scientists, and manufacturing experts to develop practical modeling and analytics solutions for drug product development. The focus is on building useful tools, models, analyses, and workflows that improve process understanding and support decisions from laboratory studies through scale-up.

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.

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

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Development
Место
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Company / Legal Entity
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Functional Area
Data and Digital
Job Type
Full time
Employment Type
Regular
Shift Work
No

Accessibility and accommodation

Novartis is 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 recruitment process, or in order to perform the essential functions of a position, please send an e-mail to diversityandincl.india@novartis.com 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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