Clinical Data Engineering Lead

Job ID
REQ-10064031

12 02, 2025

USA

About the role:

#LI:Onsite

Are you ready to make a lasting impact by building the future of oncology research? Novartis Biomedical Research (NBR) is searching for a visionary Associate Director to lead Clinical Data Engineering within our Oncology Data Science (OncDS) team. In this pivotal role, you'll be at the forefront of shaping early clinical development by building innovative biomarker data infrastructure, championing translational research, unlocking AI-powered discoveries, and raising the bar for operational excellence in biomarker data and multimodal analytics across Novartis' oncology trials.

About the Role

Key responsibilities:

- Define and implement the clinical data engineering roadmap in alignment with Novartis' data and digital strategy, collaborating with SMEs and OncDS leadership.
- Integrate advanced tools and AI/ML-ready infrastructure to support predictive modeling, multimodal analytics, and real-world data applications.
- Align clinical and pre-clinical data engineering initiatives with the broader oncology strategy.
- Lead, manage, and develop a high-performing clinical data engineering team, fostering collaboration and growth.
- Drive strategic initiatives and partnerships across a matrixed organization.
- Oversee data ingestion, transformation, and validation processes for clinical trial data, ensuring compliance with GCP/GxP, CDISC, and SOPs.
- Collaborate with CROs and internal teams to optimize data flow, versioning, and retention policies.
- Build and optimize data pipelines for both structured and unstructured clinical data to enable advanced analytics and informed decision-making.
- Deploy scalable solutions for data harmonization, metadata management, and interoperability across platforms such as Foundry, Domino, Snowflake, and POSIT Connect.
- Develop and manage applications and visualization tools, contributing to novel data products that support clinical decision-making and enable AI-driven initiatives in oncology trials.

Essential Requirements:

- This position will be located at the Cambridge, MA site and will not have the ability to be located remotely. This position will require 0-3% travel as defined by the business (domestic and/or international).
- Master's degree in computer science, Bioinformatics, Data Engineering, Software Engineering or a closely related discipline; PhD preferred.
- Minimum 10 years of hands-on experience architecting and managing clinical data engineering, data management, and bioinformatics solutions in pharmaceutical or biotechnology industry.
- Demonstrated expertise in designing, implementing, and scaling data infrastructure to support clinical development—including Artificial Intelligence (AI) / Machine Learning (ML) -driven analytics and multimodal data integration.
- Proven ability to define, document, and operationalize end-to-end assay data generation and processing pipelines, with a focus on automation, orchestration, and compliance.
- Extensive experience with oncology clinical trials, including regulatory-compliant management of clinical biomarker data and application of data standards (e.g., Clinical Data Interchange Standards Consortium [CDISC], Study Data Tabulation Model [SDTM], Analysis Data Model [ADaM]).
- Deep familiarity with FAIR (Findable, Accessible, Interoperable, Reusable) data principles, data harmonization, and enterprise data governance frameworks.
- Strong leadership in technical teams, with advanced communication and stakeholder management skills.

Desirable requirements:

- Extensive experience leading cross-functional data science initiatives in oncology, including translational science, biomarker analysis, real-world data, and exploratory clinical research; proven expertise with NGS technologies, and modern bioinformatics tools.

- Advanced proficiency in cloud-native architectures, data lakes, and visualization frameworks (e.g., RShiny, Dash, Spotfire); strong programming and engineering skills (R, Python, Java, shell scripting, Linux, HPC), with a deep understanding of GxP, Agile methodologies, AI/ML operations, and architecting/managing AI agents in large clinical data environments.

The salary for this position is expected to range between $176,400 and $327,600 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.

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

Biomedical Research

Business Unit
Research

USA

Massachusetts

Cambridge (USA)

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


```
function adjustKalturaPlayer() { var deviceWidth = window.innerWidth ||
document.documentElement.clientWidth || document.body.clientWidth; var mediaElement =
document.getElementById("kalturaplayer69823f81d8c6a580811484"); var mediaContainer =
mediaElement.closest('.nc-kaltura-media'); var originalWidth = "1200px"; var originalHeight = "674px";
var originalWidthValue = parseFloat(originalWidth); var originalHeightValue =
parseFloat(originalHeight); var mediaType = "video"; var isResponsive = false; //Get computed styles
of the container element. var parentStyles = window.getComputedStyle(mediaContainer); var
finalWidth = parseFloat(parentStyles.width); if (finalWidth   var config = { targetId:
"kalturaplayer69823f81d8c6a580811484", provider: { widgetId: "10m7rm1pm", partnerId:
"2076321", uiConfId: "55802022" }, playback: { autoplay: false, autopause: false,
allowMutedAutoPlay: false, loop: false }, sources: { options: {}, startTime: 0 }, plugins: { download: {
disable: true }, "playkit-js-transcript":{ position: "right", //Default: bottom;(' left' , ' right', ' top' , 'bottom' ) to
enable transcript. expandMode: "over", //Default: alongside;(' alongside', ' hidden' , 'over' )
expandOnFirstPlay: false, showTime: true, downloadDisabled: false, printDisabled: false, disable:
true } }, ui: { showCCButton: false, settings: { showQualityMenu: true, showSpeedMenu: false },
components: { fullscreen: { disableDoubleClick: false } }, uiComponents: [{ presets: ['Playback',
'Live'], area: 'BottomBarRightControls', replaceComponent: 'Fullscreen', get:
KalturaPlayer.ui.components.Remove } ] } }; config.plugins.preventSeek = { preventSeekForward:
false, preventSeek: false }; config.plugins.floating = { disable: true }; config.plugins.navigation = {
position: "right", expandMode: "over", expandOnFirstPlay: false, visible: false }; config.plugins['playkit-
js-hotspots'] = { disable: true }; config.plugins['playkit-js-moderation'] = { disable: true };
config.plugins['playkit-js-info'] = { disable: true }; config.plugins.share = { disable: true };
config.ui.uiComponents = []; config.plugins.googleTagManager = {};
config.plugins.googleTagManager.customEventsTracking = {};
config.plugins.googleTagManager.containerId = 'GTM-57RJQ5';
config.plugins.googleTagManager.customEventsTracking.custom = [];
config.plugins.googleTagManager.customEventsTracking = { preset: { coreEvents: true, UIEvents:
false, playlistEvents: false, castEvents: false } };




try { var kalturaPlayer = KalturaPlayer.setup(config); //Add the player to the global array. if (typeof
kalturaPlayerVideos !== 'undefined') { kalturaPlayerVideos.push(kalturaPlayer); } else { var
kalturaPlayerVideos = []; kalturaPlayerVideos.push(kalturaPlayer); } //Load the Player for other
media. kalturaPlayer.loadMedia({entryId: "1dgfvmafo"}); setTimeout(() => {
setupAutoPause(kalturaPlayerVideos); }, 500); function setupAutoPause(players) {
players.forEach((currentPlayer) => { currentPlayer.addEventListener('play', () => {
players.forEach((otherPlayer) => { if (otherPlayer !== currentPlayer && typeof otherPlayer.pause ===
'function') { otherPlayer.pause(); } }); }); }); } } catch (e) { console.error(e.message) }
```

VIDEO

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