

Senior RAG / Retrieval Engineer

Location: San Francisco, US / Berlin, DE
Type: Permanent (Full-time)
Start Date: As soon as possible / by arrangement

ABOUT DAINA

DAiNA is a precision-oncology company focused on enabling personalized cancer treatment for individual patients. We combine comprehensive molecular tumor data including genomics, transcriptomics (bulk, single cell and spatial), proteomics and epigenetics, with AI-driven analysis. Our platform connects multi-omic profiling with functional ex-vivo tumor models and personalized liquid-biopsy monitoring, creating a continuous workflow from biopsy and treatment selection through to therapy monitoring and adaptation. We also operate GMP manufacturing to produce individualized N=1 therapeutics. In short, we help physicians make more informed, personalized treatment decisions based on high-dimensional molecular tumor data.

For more information, visit: www.daina.com

THE ROLE

As Senior RAG / Retrieval Engineer, you will design and build the retrieval layer that makes DAiNA's AI-supported analysis and reporting reliable, grounded and auditable.

You will develop advanced RAG patterns using hybrid search, embeddings, vector databases, re-ranking, chunking, grounding and citation handling. Your work will support biomedical knowledge retrieval, molecular interpretation, clinical reporting and internal decision-support workflows.

A key focus is to ensure that retrieved information is accurate, traceable and suitable for sensitive scientific and clinical use cases. You will work closely with AI/ML, bioinformatics, data engineering and clinical teams to support trustworthy, evidence-grounded outputs for DAiNA's precision-oncology platform.

WHAT YOU'LL DO

- Design advanced retrieval systems using hybrid search, embeddings, vector databases, re-ranking, chunking and grounding.
- Build reusable RAG patterns for DAiNA's AI/ML and reporting workflows.
- Develop evaluation harnesses for retrieval quality, factual grounding, citation accuracy and regression testing.
- Prototype and benchmark open-weight embedding and generation models.
- Improve strategies for document ingestion, metadata handling, chunking and knowledge retrieval.
- Work closely with AI/ML, bioinformatics, data and clinical teams to ensure retrieval supports real DAiNA use cases.
- Hand over tested retrieval patterns and implementation guidance for secure operational deployment.

WHAT YOU BRING

- Deep hands-on experience with RAG, retrieval systems and evaluation.
- Strong Python skills and experience building production-grade AI/ML components.
- Practical experience with vector databases, embeddings, hybrid search, re-ranking and RAG frameworks.
- Strong understanding of grounding, citation handling and hallucination reduction.
- Experience measuring retrieval quality rigorously through benchmarks, test sets and regression testing.
- Ability to work with synthetic, public or de-identified datasets when designing systems for sensitive-data environments.
- Clear communication with engineering, AI/ML and scientific stakeholders.

NICE TO HAVE

- Experience with evaluation tools such as Ragas, DeepEval or similar frameworks.
- Experience with knowledge graphs, semantic search, hybrid information retrieval or biomedical ontologies.
- Background in healthcare, biotech, pharma, diagnostics or another regulated environment.
- Familiarity with biomedical literature, clinical reports, omics data or treatment guidelines.
- Experience designing RAG systems for data residency, privacy or compliance constraints.

WHY DAINA

- Employer contributions toward private health insurance or supplementary health coverage, as well as pension or retirement savings.
- Hybrid model with ~60% of working time **expected** on-site and the rest **remotely**, depending on team and business needs.
- Performance-based bonus opportunity, depending on company and individual performance.
- A personal development budget for conferences, courses, certifications, and training.
- The opportunity to work directly on real patient cases and help shape a first-in-class precision-oncology platform
- A proactive, collaborative team with fast decision-making and strong ownership of your domain.

HOW TO APPLY

Send your CV and a short note on why this role fits you to recruiting@daina.com, quoting “Senior RAG / Retrieval Engineer” in the subject line. We review applications on a rolling basis and aim to reply quickly.

DAiNA is an equal-opportunity employer. We welcome applicants of every background and assess every candidate on merit, regardless of age, gender, ethnicity, religion, disability, sexual orientation or origin. If you need any adjustment to the process, let us know in your application.