Staff Software Developer

Requisition	R0000193046
Employer	Royal Bank of Canada
Canadian locations	Toronto (Ontario, Canada)
Primary address	600 QUEENS PLATE DR, TORONTO, ON M9W 0A4, Canada
Posted	November 26, 2026
Date in the description	November 25, 2026
Posted deadline	December 10, 2026
Last day to apply	December 9, 2026
Business area	TECHNOLOGY AND OPERATIONS
Employment status	Regular
Work schedule	Full time · 37.5 h per week
Pay type	Salaried

The position

We are looking for a software developer for the successful staff at the intersection of software engineering excellence and innovation in advanced AI. You will be integrated into RBC's Strategy and Innovation team, helping to design, build and scale AI agent systems and smart software solutions that push the limits of what is possible in financial services.

This is not a typical engineering role. You will operate with the mindset of an innovator — running experiments, building proof-of-concepts, and rapidly iterating — while maintaining the engineering rigor required to take solutions from prototype to production. You will mentor peers, shape technical direction, and partner directly with business stakeholders to solve complex, high-impact problems.

Responsibilities

Agentic AI & Intelligent Systems Engineering

- Design, prototype and validation of AI systems capable of production, using models such as ReAct, use of tools, multi-agent orchestration and long-term planning with robust memory and context management, establishing architectural plans and technical standards that product teams can use with confidence
- Build MCP (Model Context Protocol) servers and tool integration layers that connect AI agents to corporate APIs, internal data sources and downstream systems with low latency and high reliability
- Evaluate, refine and deploy open language and small language models (e.g., Llama, Mistral, Phi families) using techniques such as LoRA and QLoRA, selecting the appropriate model architecture for appropriate use based on latency, cost and residence requirements of the data
- Manage end-to-end training and life cycle of the RBC GPU group in the agricultural sector of AI, including quantification, optimization of inferences through executives such as vLLM or TGI
- Implement AI orchestration workflows with observability, assessment harnesses and guardrails that meet corporate governance, model risk and responsible AI requirements
- Evaluate AI capabilities at the border — multi-agent collaboration, self-corrected reasoning, selection of dynamic tools — with an acute eye for engineering-ready versus stage-research

Technical Leadership & Collaboration

- Conducting a deep technical mentoring for junior and senior engineers — through design reviews, pair programs and structured feedback — with a focus on developing a sustainable engineering judgment, not just completing tasks

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- Lead technical peaks and feasibility studies, produce outputs that reduce uncertainty and unlock delivery; institutionalize AI-enhanced engineering practices – AI-assisted code production, specification-based development, automated testing generation.
- Partner with Enterprise Architecture, Cyber Security, and Data & AI teams to ensure innovations are designed against RBC's reference architecture, security controls, and data governance standards from inception
- Conduct prototype-production transitions — establish operational standards, monitoring frameworks and transfer documentation necessary to transfer laboratory innovations to enterprise platforms reliably

Innovation Delivery & Industry Intelligence

- Contribute to innovation pipeline governance — from initial ideation and problem framing through structured PoC execution, stage-gate evaluation, and handoff to product or platform teams for scaled delivery
- Prototype and validate use cases in RBC's strategic innovation themes, including AI agent workflows, API integrations in open banks, real-time data products and integrated financing experiences, with emphasis on demonstrating business value early and quickly iterative

Qualifications

Requirements

- 8+ years of professional experience in software development with solid experience in the provision of production quality solutions
- 2+ years of hands-on experience with LLMs, generative AI, or agentic AI systems in real-world environments
- Expert skills in Python and/or Java (Core, Spring Boot)
- Strong understanding of AI models: use of tools, agent orchestration, ReAct, multi-step reasoning, memory and context management
- Experience with LLM API integration, rapid engineering and RAG systems (vectorial databases, embarkations, recovery strategies)
- Practical experience in evaluating, fine tuning and deploying models in open language or small language using techniques such as LoRA, QLora or SFT
- Git, CI/CD pipeline skills and automated test best practices
- Demonstrated be able to work on your own, take charge and lead initiatives to their end with minimal supervision
- Communicate clearly — able to clearly articulate technical decisions with engineering peers and business stakeholders
- True passion for experimentation and emerging technologies — comfortable with ambiguity, rapid iteration and learning of failure

Assets

- Hands-on experience with model serving frameworks.
- Knowledge of model quantification techniques (INT8, INT4, GPTQ, AWQ) and optimization of inferences
- MLOps Tool Experience — Monitoring of Experiments (MLflow, W&B), Model Logs and Deployment Pipelines
- Familiarity with cloud platforms (Azure, AWS or GCP), Docker and Kubernetes/OpenShift
- Experience with frontend development (TypeScript, JavaScript, Reaction or Angular)
- Experience with ML frames (TensorFlow, PyTorch, HuggingFace)
- Contributions to AI or open-source automation projects
- Monitor and assess the competitive and regulatory environment — monitor emerging trends in AI, open banks, integrated finance and financial technologies to identify opportunities and threats related to RBC's strategic position

Pay and benefits

RBC teams aim to grow by working together, thinking ahead and giving dependable advice that helps clients and communities prosper. They support one another, develop their potential and strive for outcomes that benefit the communities they serve as well as the bank.

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- A total compensation program with competitive pay, bonuses and flexible benefits, plus commissions and stock where applicable.
- Managers who coach employees and help them find opportunities to develop.
- Capacity to make a difference and sustainable impact
- Join a collaborative team that works at a high standard and looks for new ways to improve.
- Opportunities to do challenging work
- Opportunities for progressively fulfilling greater responsibilities
- Opportunities for close relationships with clients

Job Skills

Active learning, agile methodology, application integrations, emerging technologies, business application delivery, group problem solving, programming languages, software development life cycle (SDLC)

RBC accepts applications until 11:59 p.m. on the day before the posted deadline.

Our Employment Opportunities

RBC works as One RBC and follows five shared values: putting clients first, integrity, collaboration, respect and excellence. As one of the world's largest and most successful banks, it sees inclusion and different perspectives as important to continued growth. RBC supports staff in doing their best work, working together, innovating and developing professionally. Its policies and programs foster respect, belonging and opportunities for everyone to create value for clients and communities.

Talent community

People who join RBC's talent community can receive new postings, career advice and recruitment event updates tailored to their interests.

RBC's careers portal shares information about career paths and how its teams contribute to client and community well-being.

RBC is accepting applications for an existing vacancy. Qualified applicants may hear from the recruitment team for a more detailed review of their résumé.

Search for requisition R0000193046 on the RBC careers portal.

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