Data Scientist and AI Engineer Autonomous AI Agents (LLMs and Deep Learning)

Requisition	R0000187024
Employer	Royal Bank of Canada
Canadian locations	Toronto (Ontario, Canada)
Primary address	600 QUEENS PLATE DR, TORONTO, ON M9W 0A4, Canada
Posted	November 24, 2026
Date in the description	September 9, 2026
Posted deadline	January 31, 2027
Last day to apply	January 30, 2027
Business area	PERSONAL & COMMERCIAL BANKING
Employment status	Regular
Work schedule	Full time · 37.5 h per week
Pay type	Salaried

The position

Looking for a chance to make a significant impact? Do you thrive in fast-changing and innovative environments? Are you passionate about promoting businesses through advanced AI solutions?

Join our team at the forefront of technological advancement, where you will develop applications such as stand-alone AI agents that take advantage of the major language models (LLM) and other deep learning models (LLM). As an AI engineer, you will play a central role in building smart systems that transform our operations and offer value.

It's an opportunity to engage in advanced AI technologies and gain unparalleled experience in applying machine learning to solve real problems. You'll work with a team of talented and passionate people who believe that innovative AI solutions are essential to our success.

Responsibilities

- Design and development of AI applications, creation and deployment of stand-alone AI agents using LLM and deep learning models. Finish and customize pre-training models (e.g. GPT-4, BERT, Llama, Qwen) for specific use cases.
- Implement machine learning algorithms. Develop and optimize algorithms for natural language processing, computer vision and other areas of AI. Apply transfer and enhancement learning techniques to improve model performance.
- Work closely with inter-functional teams to integrate AI solutions into existing products and services. Participate in code reviews, design discussions and team meetings to foster a collaborative environment.
- Operational Excellence. Ensure scalability, reliability and security of AI models and systems. Monitor and analyze system performance, proactively addressing problems.
- Continuous learning and innovation. Stay up to date with the latest advances in AI and machine learning. Experience with new technologies and methodologies to improve existing solutions.
- Mentorship and Knowledge Sharing. Provide guidance and training to team members on AI technologies and best practices. Document processes, design patterns, and technical implementations for future reference.

Qualifications

Requirements

- Education: Bachelor's or Master's or PhD in Computer Science, Engineering, Mathematics or a related field.
- Software Development Experience:

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- Experience in developing software with Python, Java or C++ skills.
- A good understanding of software engineering principles and practices.
- Machine Learning Expertise:
- Practical experience with deep learning frameworks such as TensorFlow or PyTorch.
- Knowledge of natural language and LLM processing techniques.
- Design and deployment of models:
- Experience in training, adjusting and deploying machine learning models.
- Familiarity with cloud platforms (e.g. AWS, GCP, Azure) for model deployment.
- Data Handling Skills:
- Skill in data preprocessing, functionality engineering and work with large data sets.
- Understanding of confidentiality and data security considerations.
- Collaboration and Communication:
- Communicate effectively to articulate complex concepts with technical and non-technical stakeholders.
- Work experience in agile development teams.

Assets

- Experience with advanced AI knowledge development and the development of autonomous agents.
- Familiarity with vision, voice recognition or computer recommendation systems.
- Certifications in AI/ML or related fields.
- Contributions to open access projects or publications at renowned AI/ML conferences.
- Coursera Certification on Convolutional Neural Networks and Specialization in Deep Learning (Provide Qualification IDs).

Pay and benefits

- Work on innovative AI projects that have a significant impact on industry.
- Be part of a think tank that values creativity and innovation.
- Opportunities for continuous learning through training, workshops and conferences.
- Mentorship programs and professional development plans to help you achieve your goals.
- An attractive set of salaries and benefits that rewards your expertise and contributions.
- Performance awards and recognition programs.

Job Skills

Artificial Intelligence (AI), Big Data Management, Data Mining, Data Science, Decision-making, Machine Learning (ML), Natural Language Processing (NLP), Predictive Analytics, Python (Programming Language), Statistical Analysis

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 R0000187024 on the RBC careers portal.

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