Applied AI Engineer

Columbia University

Details

Posted: 02-Jul-25

Location: New York, New York

Type: Full-time

Categories:

Staff/Administrative

Internal Number: 550479

- Job Type: Officer of Administration
- Bargaining Unit:
- Regular/Temporary: Temporary
- End Date if Temporary:
- Hours Per Week: 35
- Standard Work Schedule:
- Building:
- Salary Range: $130,000-$150,000

The salary of the finalist selected for this role will be set based on a variety of factors, including but not limited to departmental budgets, qualifications, experience, education, licenses, specialty, and training. The above hiring range represents the University's good faith and reasonable estimate of the range of possible compensation at the time of posting.

Position Summary

Reporting to the Chief Information Officer, the Applied AI Engineer will play a pivotal role in

developing AI applications for use by the Columbia University Irving Medical Center (CUIMC) community, functioning in a fast-paced and agile way focusing on developing extremely innovative solutions to some of the most challenging problems of the organization.

This role will focus primarily on supporting our administrative, research, clinical and educational missions. This position involves developing applications and systems using AI technologies including applications of leveraging LLM APIs, automation/RPA, and machine learning algorithms to drive efficiencies and new capabilities across various University functions. The successful candidate will collaborate with cross-functional teams to design, build, and maintain advanced AI models and applications.

The ideal candidate is a hands-on technologist with proven experience developing and deploying AI/ML solutions in real-world environments. They are intellectually curious and proactive?equally adept at responding to strategic requests and independently exploring emerging technologies to build foundational knowledge. Exceptional communication skills are essential, as the role requires translating complex technical concepts into clear, actionable insights for both technical and non-technical audiences through materials such as executive briefings, white papers, and live demos. They are also a self-directed project manager, capable of leading research investigations and AI initiatives from concept through execution with minimal oversight. Above all, the successful candidate is energized by solving difficult problems and applying innovative, responsible approaches to advance CUIMC?s mission in healthcare, education, and research.

Responsibilities

Essential Duties:

AI Development and Implementation

- Design, build, and maintain applications using retrieval-augmented generations (RAG) techniques to enhance knowledge retrieval, automate workflows, and support decision-making across CUIMC operations.
- Develop scalable AI tools that can be integrated into CUIMC?s administrative and educational systems.
- Translate stakeholder goals into actionable AI use cases and recommend suitable tools or frameworks.
- Evaluate tradeoffs between model performance, interpretability, and operational scalability when selecting AI approaches.
- Serve as a technical advisor on AI feasibility, integration strategies, and ethical considerations.

Research and Innovation

- Stay current on AI advancements, frameworks, and tooling, with a focus on their applicability in higher education and healthcare.
- Rapidly prototype solutions using open-source technologies; present findings and demos to stakeholders and leadership.
- Participate in exploratory investigations and contribute to long-term strategic roadmaps for emerging technologies.
- Contribute to the development of AI governance strategies, including documentation of model assumptions, limitations, and potential risks.

Technical Support and Documentation

- Troubleshoot and optimize AI applications; provide technical support in for production issues as needed.
- Develop and maintain comprehensive documentation for all projects, and prepare reports and presentations to communicate findings to both technical and non-technical stakeholders.

Responsible AI and Institutional Alignment

- Ensure AI applications are designed and deployed with attention to privacy, transparency, and equitable impact.
- Adhere to CUIMC?s data governance, compliance, and institutional review protocols.
- Support development of internal best practices for safe and ethical use of generative and predictive AI models.

Data Analysis

- Perform exploratory data analysis (EDA) to inform AI model development and application logic.
- Ensure data quality, compliance, and integrity in all phases of the AI project lifecycle.
- Define and track success metrics for deployed models: monitor model drift, fairness, and performance over time.

People

- Partner with internal teams (engineers, analysts, data scientists, and stakeholders) to scope needs, develop solutions, and ensure successful implementation.
- Participate in stakeholder discussions to recommend AI tools and solutions aligned with institutional goals.
- Facilitate stakeholder workshops or design sessions to co-create AI-enabled workflows.

Other

- Performs other related duties as assigned.

Minimum Qualifications

- Bachelor's degree plus 5years' experience or equivalent combination of education and experience.

Preferred Qualifications

- Bachelor's degree in Computer Science, Engineering, artificial intelligence (AI), or Statistics, or a related field.
- At least 5 years of related experience developing AI solutions in a professional setting.
- Proficiency in programming languages such as Python, Javascript, Typescript, C#, Java, etc.
- Experience with at least two of the following domains:
  - Creating solutions with a foundational LLM (OpenAI, Claude, etc.) or with a framework such as Langchain.
  - Using LLM?s for Data Extraction and Analytics from structured and unstructured data.
  - Natural language processing (NLP) deployed on Text and Voice channels.
  - Deploying AI solutions to a major cloud platforms (e.g., AWS, GCP, Azure) and their AI/ML services.
- Strong understanding of data structures, algorithms, and software engineering principles.
- Excellent problem-solving and analytical skills.
- Ability to work collaboratively in a team environment.
- Strong oral and written communication skills
- Ability to manage and prioritize multiple tasks and responsibilities with minimal supervision.
- Master?s degree preferred
- Advanced-level skill and experience using Microsoft Products, including Excel for formulas, functions, macros, external data connections, pivot tables, charts, and conditional formatting.
- Experience building chat-bot interface to an existing knowledge base library/RAG database.
- Experience fine-tuning custom LLM models.
- Familiarity with cloud computing services (e.g., AWS, GCP, Azure).
- Experience with Amazon Bedrock, Google Vertex AI or Microsoft Azure AI.

Equal Opportunity Employer / Disability / Veteran

Columbia University is committed to the hiring of qualified local residents.

About Columbia University

Columbia University is one of the world's most important centers of research and at the same time a distinctive and distinguished learning environment for undergraduates and graduate students in many scholarly and professional fields. The University recognizes the importance of its location in New York City and seeks to link its research and teaching to the vast resources of a great metropolis. It seeks to attract a diverse and international faculty and student body, to support research and teaching on global issues, and to create academic relationships with many countries and regions. It expects all areas of the university to advance knowledge and learning at the highest level and to convey the products of its efforts to the world.

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