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Senior AI Software Engineer

PeopleSoft Job Code / Title: 7066 / Senior AI Software Engineer
Department / Subdepartment: Technology & Information Services
Organizational Relationship: Reports to Senior Manager of Machine Learning
FLSA Status: Exempt
UCM Level: 4 – Senior Engineer
Last Updated: March 5, 2025

General Summary:

The Senior AI Software Engineer is primarily responsible for supporting the design and development of full-stack Machine Learning (ML) and Generative AI (GenAI) applications tailored to optimize legal and business workflows. This role works closely with domain experts to understand business needs and translate them into technical requirements for development. By leveraging Generative AI, the Engineer takes a technical leadership role in driving the development of innovative solutions and providing technical guidance to the team where necessary. In collaboration with Machine Learning (ML) Engineers, the Sr. AI Software Engineer leads the development prototypes to assess technology readiness and suitability for specific applications, ultimately guiding the scaling of the most promising prototypes into production-ready solutions.

Essential Duties and Responsibilities:

"Essential duties" are those that an individual must be able to perform with or without reasonable accommodation.

1. Support the development of full-stack solutions for ML/GenAI applications, integrating both frontend and backend components to deliver robust and scalable solutions
2. Contribute to the entire lifecycle of ML/GenAI applications including concept, design, test, release, and support
3. Develop ML/GenAI solutions in a professional manner and in accordance with established deliverable schedules and firm procedures
4. Work closely with cross-functional teams to understand business requirements and translate these into technical requirements for application development
5. Contribute to the ideation and development of solutions; collaborate with ML Engineers to transition prototypes into production where necessary
6. Participate in consultations with development staff, legal experts, end-users, and Machine Learning Engineers to elucidate system requirements and functionalities
7. Provide technical leadership by providing technical support, and setting engineering best practices
8. Work with and make recommendations to the leadership regarding the maintenance and enhancement of existing Latham production applications
9. Stay up to date with the latest industry trends and technologies to help foster innovation
10. Code, test, and debug application systems per specifications
11. Prepare appropriate system and user documentation
12. Promote effective work practices, work as a team member, and show respect for co-workers
13. Protect and maintain any highly sensitive, confidential, privileged, financial, and/or proprietary information that Latham & Watkins retains

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Position Specifications

Education

- Bachelor's degree or equivalent in Computer Science, Information Systems, Engineering, Data Science or related fields required

Work Experience

- A minimum of three (3) years' industry experience in full stack AI application development required
- A minimum of three (3) years' Python industry experience required
- A minimum of three (3) years' experience working with agile teams, required

Knowledge, Skills & Abilities

- Proficiency with Python including experience with libraries and frameworks relevant to ML/GenAI application development (e.g., LangChain)
- Proficiency with API development frameworks (e.g., Django, Flask, FastAPI) and knowledge of web standards relating to API development (e.g., CORS, OpenAPI)
- Experience with modern web development frameworks and languages, including React, Typescript, and Node.js with experience building and maintaining front-end and backend-applications
- Experience with alternative web frameworks such as Vue.js and a strong understanding of component-based architecture, state management and responsive design principles
- Experience working with production-grade vector databases (e.g., pgvector, Chroma, or Milvus) for efficient storage and retrieval of embeddings
- Experience with relational (e.g., MySQL, PostgreSQL) and/or NoSQL databases (e.g., Mongo)
- Solid understanding of modern software development practices including CI/CD/CT, Test-Driven Development, and version control (Git)
- Experience with Agile development
- Experience with container technologies (Docker, Kubernetes)
- Ability to create unit tests, integration tests using common testing frameworks (e.g., pytest, Playwright)
- Familiarity with test-driven development
- Ability to translate conceptual ideas to technical requirements for application development
- Ability to work closely with production teams, including ML Engineers to transition prototypes into production ready solutions
- Ability to identify and mitigate technical debt to facilitate successful transition of prototype solutions into production applications
- Strong analytical skills, and a creative mindset to effectively define problems and explore solutions
- Ability to understand technical problems as presented by non-technical users; ability to communicate technical solutions in a non-technical manner
- Well-developed and professional interpersonal skills; ability to interact effectively with people at all organizational levels of the firm
- Ability to work in a team environment with a customer-service focus
- Strong communication skills, both written and verbal
- Organizational skills needed to manage time well, prioritize effectively, and handle multiple deadlines
- Ability to handle confidential and sensitive information with the appropriate discretion
- Ability to continually learn and grow in the AL/ML field

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Physical Demands

- Extensive time using a computer including use of a PC keyboard and mouse or similar data input devices is required.

Working Conditions

All Latham & Watkins positions are in a typical indoor office environment.

The statements contained in this position description are not necessarily all-inclusive; additional duties may be assigned, and requirements may vary from time to time, and from location to location.