St Joseph's University, Lalbagh Road, Bengaluru, Karnataka, India

SOFTWARE ENGINEERING ASSIGNMENT

INTERVIEW OF A MANAGER

SUBMITTED BY SUHAS G S

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TABLE OF CONTENTS

Contents	Page Number
DETAILS OF THE MANAGER	3
1. Leadership and Vision	3
2. Business Strategy	4
3. Technical Knowledge and Infrastructure	5
4. Planning and Risk Management	5
5. Industry Awareness and Regulatory Compliance	6
6. Communication and Client Engagement	6
7. Operational Efficiency	7
8. Ethics and Corporate Social Responsibility (CSR)	7
9. Innovation and Adaptability	8
10. Problem-Solving and Decision-Making	8
10. Conclusion	9

DETAILS OF THE MANAGER

NAME: Mrs. Latha Shree
DESIGNATION: Lead Machine Learning Engineer
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For this assignment, I interviewed a Lead Machine Learning Engineer working at Beam, a London-based startup specializing in AI, ML, IoT, and robotics for offshore wind automation. She is part of the Data Science and ML division, where she writes algorithms for AI and machine learning. Beam focuses on renewable energy solutions and automates offshore wind farm operations using advanced technology.

The company promotes an open work culture, where top management, including the CEO, CTO, and senior vice presidents, are easily approachable. The job offers a high salary, good work-life balance, and opportunities to work with cutting-edge technology such as AI, ML, IoT, and cloud computing (AWS). The company also emphasizes corporate social responsibility, organizing charity events like Christmas gift donations to orphanages.

1. Leadership and Vision

The Lead Machine Learning Engineer at Beam believes that strong leadership is essential for innovation in technology. At Beam, the leadership team has a clear vision of automating offshore wind energy using AI and robotics. The company's leaders encourage employees to explore new ideas and support research in machine learning and data science.

She also highlighted that Beam has a flat management structure, meaning that even junior employees can easily approach the CEO, CTO, and senior leaders with their ideas. The leadership fosters a culture of collaboration, ensuring that employees feel valued and motivated.

Her own leadership approach involves mentoring junior engineers, guiding them in writing AI algorithms, and encouraging them to take ownership of their work. She believes in learning from mistakes, promoting teamwork, and ensuring that technical solutions align with the company's long-term goals of sustainable energy solutions.

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2. Business Acumen

The business strategy at Beam focuses on using AI and robotics to improve the efficiency of offshore wind farms. The company understands the growing demand for renewable energy and uses automation to reduce costs and improve safety in wind farm operations.

The Lead ML Engineer mentioned that their business success is driven by data-driven decision-making. They analyze market trends, competitor strategies, and technological advancements to stay ahead in the industry. Beam works closely with offshore energy companies, offering AI-powered solutions that optimize wind energy generation and reduce reliance on fossil fuels.

She also explained that the company invests in research and development (R&D) to continuously improve its AI models and robotic automation. The management team ensures that business goals align with technological advancements, enabling Beam to scale its solutions efficiently while maintaining profitability.

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3. Technical Expertise

As a Lead Machine Learning Engineer, her role involves developing AI algorithms for predictive analytics, automation, and data processing. She primarily works with programming languages such as Python and Go, while also utilizing AWS for cloud computing.

The company integrates Machine Learning, AI, IoT, and robotics to enhance offshore wind operations. Some of their key technologies include:

- Autonomous robotic ships for offshore wind maintenance.
- AI-powered data platforms to monitor wind farms in real time.
- IoT sensors for environmental analysis and predictive maintenance.

She emphasized that staying updated with emerging technologies is crucial. The company encourages employees to attend workshops, research AI trends, and experiment with new tools. She enjoys solving complex problems using AI, ensuring that the models are efficient, scalable, and beneficial for offshore energy solutions.

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4. Strategic Thinking

Strategic planning is essential in Beam's operations, especially for long-term AI adoption. The company focuses on developing scalable and sustainable technology that can be implemented across different wind farms worldwide.

The Lead ML Engineer plays a role in shaping the company's AI strategy by evaluating technological risks, feasibility, and scalability before deploying machine learning models. She collaborates with other departments, including robotics and offshore survey teams, to ensure that AI solutions meet real-world requirements.

One of the biggest challenges in AI is ensuring data accuracy and reliability. She explained that Beam uses advanced data validation techniques to prevent errors in AI predictions. Additionally, the company partners with industry experts, research institutions, and environmental agencies to refine its technology and align with industry standards.

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5. Industry Knowledge

Beam operates in the renewable energy sector, specifically focusing on offshore wind automation. The company is aware of the latest industry trends, regulations, and compliance requirements related to energy production and AI usage.

She mentioned that her team must ensure that their AI solutions follow environmental regulations, safety protocols, and data privacy laws. The company also monitors competitors to understand how other firms are integrating AI into renewable energy.

As AI and robotics continue to evolve, Beam remains committed to adapting its technology to meet new industry demands. The company invests in continuous learning programs, allowing employees to upskill and remain competitive in the market.

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6. Communication and Influence

Effective communication is critical in the AI and ML division of Beam. The Lead ML Engineer often needs to explain complex AI concepts to non-technical stakeholders, such as business executives and offshore engineers.

She emphasized the importance of clear documentation, presentations, and reports to help the management team make informed decisions. The company also encourages team

collaboration, where engineers, data scientists, and project managers work together on AI-driven projects.

Furthermore, Beam values client engagement, ensuring that offshore energy companies understand how AI automation can reduce costs and improve efficiency. The company regularly holds technical demonstrations and training sessions for clients.

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7. Operational Efficiency

Beam focuses on optimizing IT operations by using AI-powered data platforms, automation tools, and cloud computing. The company follows IT governance frameworks like ITIL to maintain efficiency in software development and project execution.

Her team ensures that AI models are accurate, scalable, and cost-effective. They also implement disaster recovery plans to handle unexpected system failures in offshore wind monitoring systems.

By automating repetitive tasks using machine learning and robotics, Beam significantly improves operational efficiency, reduces errors, and enhances the overall performance of wind farms.

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8. Ethical and Social Responsibility

Beam prioritizes data privacy, ethical AI development, and corporate social responsibility (CSR). The Lead ML Engineer highlighted that the company ensures fair and unbiased AI algorithms to prevent unethical data practices.

Beyond technology, Beam actively engages in charity work. Every Christmas, employees visit orphanages and buy gifts for children as part of a Secret Santa initiative. This reflects the company’s commitment to social responsibility and community service.

Additionally, Beam's core mission is to reduce fossil fuel dependency by providing sustainable and environmentally friendly alternatives in the offshore wind sector**.**

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9. Innovation and Adaptability

Beam is a highly innovative company that continuously explores new AI solutions, robotics, and IoT applications for offshore energy. The company encourages employees to experiment with new machine learning techniques and contribute to open-source AI projects.

She mentioned that Beam adapts quickly to technological changes, ensuring that its AI models stay relevant. Employees are encouraged to upskill, take AI certification courses, and attend global tech conferences.

The company also partners with universities and research institutions to stay ahead in the AI industry.

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10. Problem-Solving and Decision-Making

At Beam, problem-solving is at the core of daily operations. The company addresses environmental challenges by providing AI-driven renewable energy solutions.

Her team focuses on identifying and mitigating technical issues related to AI models, ensuring that solutions remain reliable and efficient. Decision-making is data-driven, relying on real-time analytics, AI predictions, and industry insights.

She enjoys the challenge of developing AI models that improve offshore wind efficiency, reduce maintenance costs, and support a cleaner environment.

Conclusion

Through this interview, I learned about the importance of leadership, technical expertise, and innovation in AI-driven businesses. Beam is a company that effectively combines technology, business strategy, and social responsibility to drive the future of renewable energy.