

# Mat Bot

## Mathematical Problem-solving Intelligent Agent

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# PROJECT DESCRIPTION:

- ❖ Mat bot will be powered by advanced AI algorithms which will adapt to various mathematical domains and provides efficient solutions.
- ❖ It will use text recognition software to get the mathematical equations, word problems etc. which may range from basic arithmetic to complex calculus problems.
- ❖ It then performs mathematical analysis on the given problem.
- ❖ Machine learning will allow AI to improve and learn from experience, becoming more proficient over time to enhance efficiency, accuracy, and speed in tackling complex mathematical tasks.
- ❖ Mat Bot will interact with users through a user-friendly interface



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# PROJECT DESCRIPTION:

## Real-world Applications:

- Mathematical problem-solving is crucial for solving real-world problems in physics, economics, engineering, and more.
- Many industries rely on mathematical models for decision-making and optimization.



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# OBJECTIVES:

- Develop a rule-based system capable of solving basic mathematical problems.
- Implement machine learning algorithms for adapting to new mathematical problem-solving challenges.
- Tune the agent's algorithms based on experimental results to enhance efficiency and accuracy.
- Demonstrate adaptability and learning capabilities of MatBot through mathematical problem scenarios.



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# **HARDWARE REQUIREMENTS:**

- ☐ Processor Unit (CPU):
- ☐ Random Access Memory (RAM):
- ☐ Storage:
- ☐ Graphics Processing Unit (GPU):
- ☐ Network Interface:
- ☐ Input Devices:



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# **SOFTWARE REQUIREMENTS:**

- ☐ **Operating System:**
- ☐ **Development Environment:**
- ☐ **Mathematical Libraries:**
- ☐ **Machine Learning Libraries (if applicable):**
- ☐ **User Interface (UI):**
- ☐ **Communication Protocols:**
- ☐ **Version Control:**
- ☐ **Database (if applicable):**



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## **Performance Measure, Environment, Actuators, and Sensors. :**

- ☐ P: accuracy and efficiency of its solutions to mathematical problems.
- ☐ E: digital environment varying in complexity
- ☐ A: graphical user interface
- ☐ S: gather information from the environment



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# LITERATURE SURVEY :

- ☐ Automated Theorem Proving (ATP):
- ☐ Symbolic Computation:
- ☐ Constraint Satisfaction:
- ☐ Machine Learning for Pattern Recognition:
- ☐ Natural Language Processing (NLP):



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# LITERATURE SURVEY :

- ☐ Fun Search – set-inspired problem
- ☐ AI:R Math – homework helper
- ☐ Socratic – educational tech company



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THANK  
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