

Model Card for EIND 364: Principles of Operations Research I

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Model Card: Gurobot

Model Details

Developed by: Gurobi Optimization

Model type: Large Language Model

Version: 1.0

Last updated: 2024-07-09

- **Model Name:** Gurobot
- **Model Type:** Transformer-based GPT
- **Version:** 1.0
- **Release Date:** 2024-07-09
- **License:** Proprietary
- **Authors:** Gurobi Optimization

Intended Use

Gurobot is designed to assist users with Gurobi-related queries, including optimization modeling, API questions, and troubleshooting. It provides insights and suggestions to enhance models, answers technical questions about Gurobi's API, and can run and debug gurobipy code.

Usage Guidelines

- **Best Practices:**
 - Verify responses, as Gurobot may occasionally provide incorrect information.
 - Provide feedback to help improve Gurobot's accuracy.
 - Use Gurobot as a supplementary tool alongside official documentation and expert consultation.
- **How to Cite:**

Gurobi Optimization. (2024). Gurobot: A Custom GPT for Gurobi Modeling and API Questions. Retrieved from [Gurobi Help Center](#).

Training Data

- **Dataset(s):** Proprietary datasets, including Gurobi documentation and user queries.
- **Data composition:** Text data related to optimization modeling, Gurobi's API, and troubleshooting scenarios.

- **Preprocessing:** Data cleaning and formatting to align with Gurobi's domain-specific language and terminology.

Performance and Limitations

Performance Metrics

Gurobi has not publicly disclosed its performance metrics.

Suggested Performance Metrics for Gurobot:

- **Enhancement of Learning Quality:** Measures how effectively Gurobot helps users understand and learn optimization modeling, algorithms, and implementation techniques in coding.
- **Enhancement of Learning Speed:** Evaluates how much Gurobot accelerates the user's learning process by providing quick and relevant answers, reducing the time required to grasp optimization concepts and coding techniques.
- **Model Accuracy:** Assesses the correctness and relevance of the modeling approaches and solutions suggested by Gurobot.
- **Versatility:** Evaluates how well Gurobot supports a diverse range of optimization modeling and algorithm design approaches across various scenarios.

Known Limitations

- May generate incorrect or fabricated information ("hallucinations").
- Responses may lack depth in complex or highly specialized topics.
- Dependent on the quality and specificity of user queries.

Ethical Considerations

- **Bias:** Potential biases based on the training data; users should critically evaluate responses.
- **Privacy:** Users should avoid sharing sensitive or personal data when interacting with Gurobot.
- **Environmental impact:** Training and deploying large language models consume significant computational resources.

Technical Specifications

- **Model Architecture:** Transformer-based Generative Pre-trained Transformer (GPT)
- **Parameters:** Not publicly disclosed
- **Input:** Text prompts related to Gurobi optimization
- **Output:** Textual responses providing information, code snippets, or troubleshooting guidance

Additional Information

- **License:** Proprietary
- **Contact:** For support, visit the [Gurobi Help Center](#).
- **Citation:**
Gurobi Optimization. (2024). Gurobot: A Custom GPT for Gurobi Modeling and API Questions. Retrieved from [Gurobi Help Center](#).

Version History

- v1.0 (2024-07-09): Initial release

Acknowledgements and Citation Guidance

Gurobot is developed by Gurobi Optimization to enhance user interaction and support for Gurobi's products. Users are encouraged to cite Gurobot in publications as follows:

Gurobi Optimization. (2024). Gurobot: A Custom GPT for Gurobi Modeling and API Questions. Retrieved from [Gurobi Help Center](#).

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