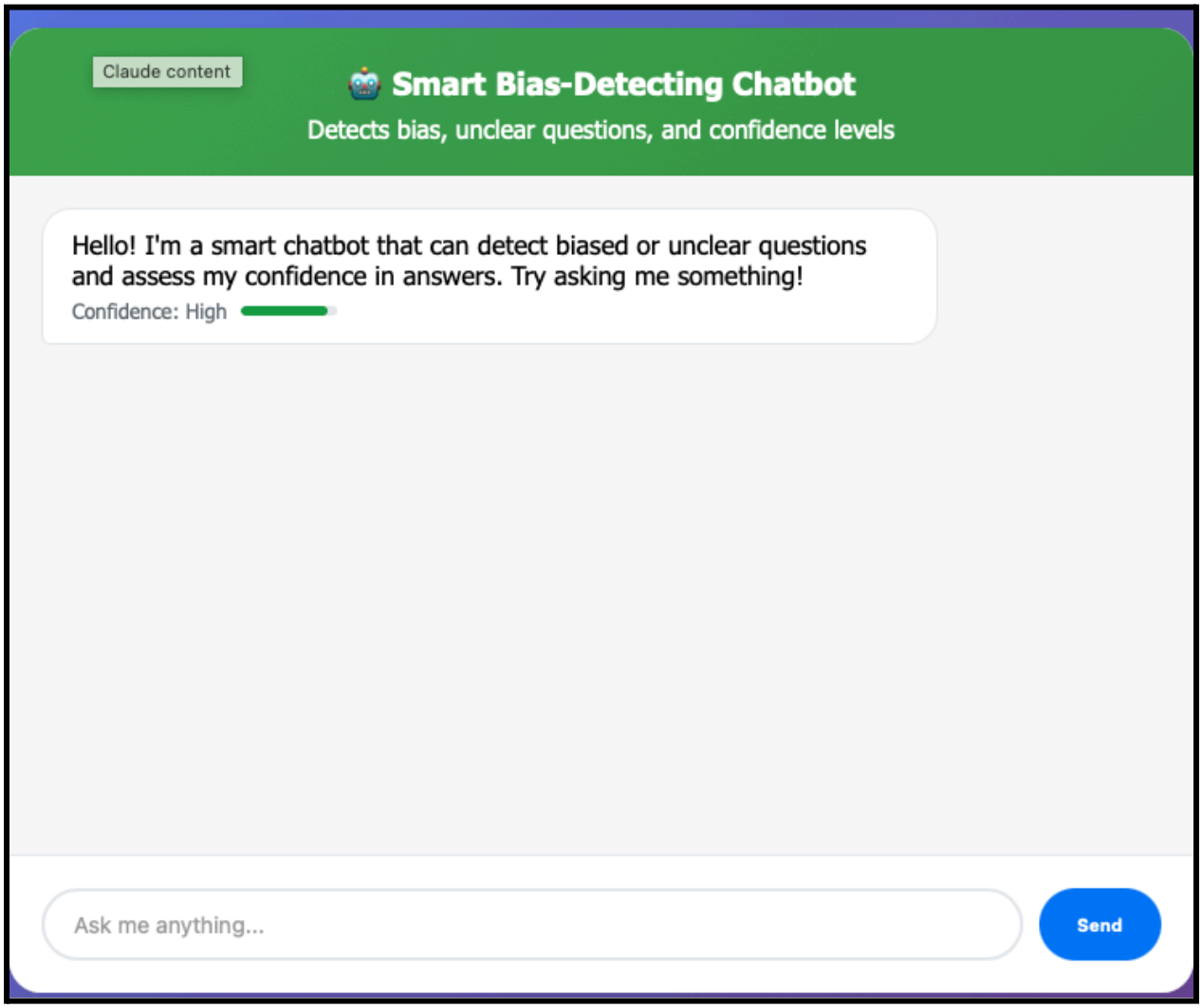
Smart chatbot that can detect biased or unclear questions and assess its own confidence levels.

https://github.com/tmlrnc/LLM/blob/main/bias_detect_bot.py



Here are the key features:

Bias Detection:

- Identifies biased language like "always," "never," "obviously," "clearly"
- Warns users when questions contain absolute statements or loaded language
- Suggests more neutral rephrasing

Clarity Assessment:

- Detects vague terms like "thing," "stuff," "it," "whatever"
- Identifies questions that are too brief or lack context

- Prompts users to be more specific

Confidence Evaluation:

- Calculates confidence based on question topics and complexity
- High confidence for factual questions (definitions, calculations)
- Low confidence for opinions, predictions, or subjective matters
- Visual confidence indicator with color-coded bars

Smart Response System:

- Refuses to answer when confidence is too low
- Provides appropriate warnings for biased or unclear questions
- Tailors response quality to confidence level

Additional Features:

- Typing indicator for realistic interaction
- Modern, responsive design
- Real-time analysis of user input
- Educational feedback to help users ask better questions

Try asking questions with bias (like "Why are all politicians corrupt?"), unclear language (like "What's that thing?"), or topics requiring high confidence (like "What is photosynthesis?") to see how the bot responds differently to each type.

Features:

OpenAI Integration:

- Real API calls to OpenAI's GPT models
- Dynamic system prompts based on confidence levels
- Fallback responses when API is unavailable
- Secure API key handling (stored locally)

Enhanced AI Processing:

- Temperature adjustment based on confidence (lower temp for high confidence)
- Context-aware system prompts
- Better error handling for API failures

Improved React Architecture:

- Modern React hooks (useState, useRef, useEffect)
- Component-based design
- Tailwind CSS styling

- Responsive design

🔧 How to Use:

Setup Options:

1. **With OpenAI API:** Enter your OpenAI API key for real AI responses
2. **Demo Mode:** Click "Demo Mode" to test without an API key

Key Features:

- **Bias Detection:** Catches absolute terms and loaded language
- **Clarity Assessment:** Identifies vague or unclear questions
- **Confidence Scoring:** Visual confidence indicators with color coding
- **Smart Responses:** AI-powered answers that scale with confidence level

API Integration:

```
javascript
// The component makes real calls to OpenAI:
const response = await fetch('https://api.openai.com/v1/chat/completions', {
  method: 'POST',
  headers: {
    'Content-Type': 'application/json',
    'Authorization': `Bearer ${apiKey}`
  },
  body: JSON.stringify({
    model: 'gpt-3.5-turbo',
    messages: [
      { role: 'system', content: systemPrompt },
      { role: 'user', content: message }
    ]
  })
});
```

The chatbot now provides real AI-powered responses while maintaining all the bias detection and confidence assessment features. It gracefully handles API errors and provides meaningful fallback responses when needed.

Test it with:

- Biased questions: "Why are all politicians corrupt?"
- Unclear questions: "What's that thing that does stuff?"
- High-confidence questions: "What is photosynthesis?"

- Low-confidence questions: "What will happen tomorrow?