

GENERATIVE ARTIFICIAL INTELLIGENCE (AI):

One staff's experience with ChatGPT

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Introduction

- I am a long-time transportation engineer/travel demand modeler and a beginning user of Large Language Model (LLM) empowered chatbots like ChatGPT, with less than 3 months of use experience with ChatGPT 3.5 (the free version).
- Despite my very limited use experience with ChatGPT, I realized its great potentials that could benefit our profession.
- Thus, I am sharing what I have learnt so far in the hope of initiating a continued discussion in the TFS community as to the application of ChatGPT and other Artificial Intelligence (AI) technologies in travel forecasting practices.



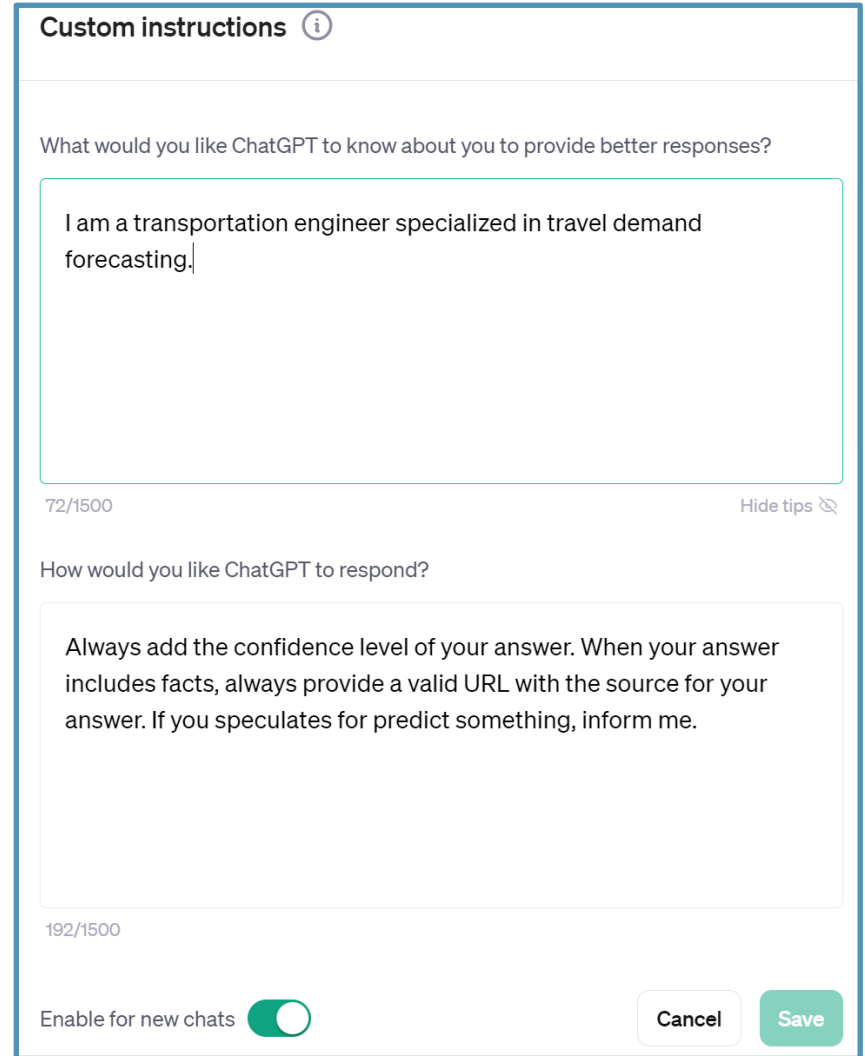
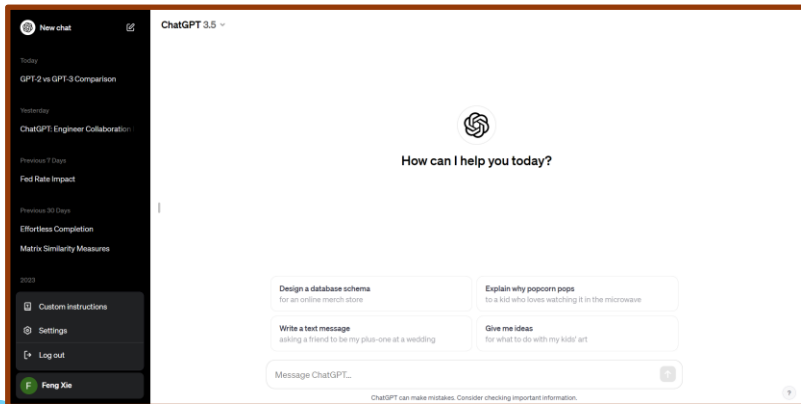
Introduction

- Generative AI
- Large Language Model (LLM)
- OpenAI and ChatGPT
- GPT-3.5 vs. GPT-4
 - Free vs. subscription (\$20-\$25 per month)
 - Trained with 175 billion vs. 100 trillion (estimated) parameters
 - Text only vs. multimodal (text, images, and voice) inputs
 - No access to up-to-date information (trained with data up to January 2022) vs. ability to access the internet and provide information on current events
 - Plugins created by OpenAI and third-party developers only available in GPT-4



Setup

- Go to <https://chat.openai.com/>
- Create a new account or use an existing Google/Microsoft/Apple account to log in.
- Provide custom instructions (optional)



Use Cases

- My work-related use cases with ChatGPT in the past 3 months can be classified into three categories:
 - Using ChatGPT as a search engine/research assistant
 - Using ChatGPT as a content generator/editor
 - Using ChatGPT as a programming assistant
- Examples

Caveats

- Security/copyright concerns with ChatGPT:
 - In May 2023, Samsung banned use of generative AI tools like ChatGPT, one month after internal, sensitive data was accidentally leaked to ChatGPT
 - In December 2023, New York Times sued OpenAI and Microsoft for copyright infringement
 - Check your employer’s policy on the use of generative AI at work
 - Do not share confidential/sensitive information in your conversations
- Large Language Models (LLMs) are known to have “hallucinations,” a behavior where the model produces false information as if it is accurate
 - Inability for us to see how deep learning systems like LLM make their decisions makes it challenging to fix the “hallucination” issue
 - Outputs from a chatbot must be reviewed by human
 - Crosscheck from independent sources
 - Ask ChatGPT follow-up questions or approach the same question from different angles



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