

## File Description

File/Folder	Description
data/	This folder contains human data and measurement tables.
records/	This folder contains response records from ChatGPT models.
extract.ipynb	The code for extracting actions from models' responses using ChatGPT-3.
mu-test.ipynb	The code for the significance tests (Section 3 in SI).
plot-sankey.ipynb	The code for plotting Sankey plots for the Prisoner's Dilemma game (Fig. 4 and Fig. S8).
plot.ipynb	The code for plotting figures in the paper.
run-openai.ipynb	The code for collecting ChatGPT responses using the official OpenAI API, containing all the prompts.
run-revChatGPT.ipynb	The code for collecting ChatGPT responses using the unofficial revChatGPT tool.

## Reproducing the Results

Figure/Table	Code	Data and Response Records
<b>Fig. 1:</b> Big Five	plot.ipynb: Fig. 1 run-openai.ipynb: Big Five Test	Human data: data/bigfive_data.csv ChatGPT-4 responses: records/bigfive_gpt4_2023_06_26-01_37_11_PM.json ChatGPT-3 responses: records/bigfive_turbo_2023_06_26-02_06_26_AM.json Test questions: data/bigfive.tsv IPIP measurement: data/bigfive_IPIP.tsv
<b>Fig. 2:</b> Turing Test	plot.ipynb: Fig. 2	See below for the human data and model responses for each game
<b>Fig. 3:</b> Distributions - Dictator	plot.ipynb: Fig. 3 - Dictator run-openai.ipynb: Games - Dictator Game	Human data: data/dictator.csv ChatGPT-4 responses: records/dictator_gpt4_2023_04_05-04_34_28_AM.json

		<p>ChatGPT-3 responses: records/dictator_wo_ex_2023_03_13-11_24_07_PM.json</p>
<p><b>Fig. 3:</b> Distributions - Ultimatum</p>	<p>plot.ipynb: Fig. 3 - Ultimatum run-openai.ipynb: Games - Ultimatum Game</p>	<p>Human data: data/ultimatum_strategy.csv</p> <p>Ultimatum - Proposer: ChatGPT-4 responses: records/ultimatum_1_gpt4_2023_04_05-04_41_04_AM.json ChatGPT-3 responses: records/ultimatum_1_wo_ex_2023_03_13-11_54_45_PM.json</p> <p>Ultimatum - Responder: ChatGPT-4 responses: records/ultimatum_2_gpt4_2023_04_05-04_49_55_AM.json ChatGPT-3 responses: records/ultimatum_2_wo_ex_2023_03_14-12_44_57_AM.json</p>
<p><b>Fig. 3:</b> Distributions - Trust</p>	<p>plot.ipynb: Fig. 3 - Trust run-openai.ipynb: Games - Trust Game</p>	<p>Human data: data/trust_investment.csv</p> <p>Trust - Investor: ChatGPT-4 responses: records/trust_1_gpt4_2023_04_05-05_49_06_PM.json ChatGPT-3 responses: records/trust_1_wo_ex_2023_03_16-11_20_16_PM.json</p> <p>Trust - Banker: ChatGPT-4 responses: records/trust_3_gpt4_2023_04_08-12_03_33_AM.json ChatGPT-3 responses: records/trust_3_turbo_2023_04_08-12_05_57_AM.json</p>
<p><b>Fig. 3:</b> Distributions - Public Goods</p>	<p>plot.ipynb: Fig. 3 - Public Goods run-openai.ipynb: Games - Public Goods</p>	<p>Human data: data/public_goods_linear_water.csv ChatGPT-4 responses: records/PG_basic_gpt4_2023_05_09-11_15_42_PM.json records/PG_basic_gpt4_loss_2023_05_09-10_44_38_PM.json</p>

		<p>ChatGPT-3 responses:</p> <p>records/PG_basic_turbo_2023_05_09-02_49_09_AM.json</p> <p>records/PG_basic_turbo_loss_2023_05_09-03_59_49_AM.json</p>
<p><b>Fig. 3:</b> Distributions - Bomb Risk</p> <p><b>Fig. 5:</b> Bomb Risk</p>	<p>plot.ipynb: Fig. 3 - Bomb Risk</p> <p>run-openai.ipynb: Games - Bomb Risk</p>	<p>Human data: data/bomb_risk.csv</p> <p>ChatGPT-4 responses:</p> <p>bomb_gpt4_2023_05_15-12_13_51_AM.json</p> <p>ChatGPT-3 responses:</p> <p>bomb_turbo_2023_05_14-10_45_50_PM.json</p>
<p><b>Fig. 3:</b> Distributions - Prisoner's Dilemma</p> <p><b>Fig. 4:</b> Prisoner's Dilemma</p>	<p>plot.ipynb: Fig. 3 - Prisoner's Dilemma</p> <p>run-openai.ipynb: Games - Prisoner's Dilemma</p> <p>plot-sankey.ipynb</p>	<p>Human data: data/push_pull.csv</p> <p>ChatGPT-4 responses:</p> <p>records/PD_gpt4_two_rounds_push_2023_05_10-10_04_33_PM.json</p> <p>records/PD_gpt4_two_rounds_pull_2023_05_08-08_57_08_PM.json</p> <p>ChatGPT-3 responses:</p> <p>records/PD_turbo_two_rounds_push_2023_05_08-06_03_40_PM.json</p> <p>records/PD_turbo_two_rounds_pull_2023_05_08-09_23_13_PM.json</p>
<p><b>Fig. 6:</b> Payoff</p> <p>Figures and tables in SI: Table S1, Fig. S3, Fig. S4, Fig. S5, Table S2</p>	<p>plot.ipynb: Fig. 6</p>	<p>See above for the human data and model responses for each game.</p>
<p><b>Fig. S1:</b> Demographics of human data in Big Five</p>		<p>data/bigfive_data.csv</p>
<p><b>Fig. S2:</b> Demographics of MobLab human data</p>		<p>See above for the human data for each game.</p>
<p><b>Fig. S6:</b> Framing</p>	<p>plot.ipynb: Fig. S6</p> <p>run-openai.ipynb: Games (Witnessed and Explained, Paired, Different Roles, Trust 2-4)</p>	<p>S6 (a):</p> <p>records/dictator_witnessed_2023_03_31-10_01_37_PM.json</p> <p>records/dictator_w_ex_2023_03_13-11_40_16_PM.json</p>

		<p><b>S6 (b):</b>  records/ultimatum_2_gpt4_paired_male_2023_04_12-11_58_47_PM.js  on  records/ultimatum_2_gpt4_paired_female_2023_04_12-11_52_38_PM.  json</p> <p><b>S6 (c):</b>  records/ultimatum_2_gpt4_occupa  tions_described_2023_04_10-10_5  6_28_AM.json</p> <p><b>S6 (d-f):</b>  records/trust_2_gpt4_2023_04_07  -11_46_45_PM.json  records/trust_4_gpt4_2023_04_08  -12_24_56_AM.json  records/trust_2_turbo_2023_04_0  7-11_50_49_PM.json  records/trust_4_turbo_2023_04_0  8-12_30_40_AM.json</p>
<b>Fig. S7:</b> Learning	plot.ipynb: Fig. S7 run-openai.ipynb: <b>Games - Ultimatum (Session  1&amp;2), Trust (All Together)</b>	<p><b>Ultimatum Game:</b>  records/ultimatum_21_gpt4_2023_  04_07-03_32_21_AM.json  records/ultimatum_21_2023_03_29  -05_41_19_PM.json  records/ultimatum_12_gpt4_2023_  04_07-03_14_30_AM.json  records/ultimatum_12_2023_03_29  -06_27_31_PM.json</p> <p><b>Trust Game:</b>  records/trust_gpt4_31_2023_04_1  2-02_51_38_AM.json  records/trust_gpt4_13_2023_04_1  2-02_03_38_AM.json  records/trust_turbo_31_2023_04_  12-04_53_06_PM.json  records/trust_turbo_13_2023_04_  12-04_37_21_PM.json</p>
<b>Fig. S8:</b> Prisoner's Dilemma (Five Rounds)	plot.ipynb: Fig. 3 - Prisoner's Dilemma run-openai.ipynb: <b>Games - Prisoner's Dilemma</b> plot-sankey.ipynb	<p><b>Human data:</b> data/push_pull.csv  <b>ChatGPT-4 responses:</b>  records/PD_gpt4_five_rounds_pul  l_2023_05_11-05_17_36_PM.json  <b>ChatGPT-3 responses:</b>  records/PD_turbo_five_rounds_pu  ll_2023_05_11-08_03_28_PM.json</p>

