

Table 1: Supplementary Table. Default Mode Network (DMN) and Auditory Network ROIs MNI coordinates derived from (Seitzman et al., 2020). Pink color cells belong to the Auditory Network and green color belong to DMN.

Sr. no	x	y	z	Radius (mm)	Brain Cortices*
1	-52.92	-21.83	22.97	5	1
2	-60.48	-25.22	13.82	5	1
3	-55.22	-9.42	11.73	5	1
4	-49.77	-34.36	25.74	5	1
5	-49.14	-26.3	5.18	5	1
6	-38.43	-33.34	16.98	5	1
7	43.45	-22.93	19.85	5	2
8	59.4	-17.34	28.69	5	2
9	31.75	-26.33	12.91	5	2
10	55.96	-5.03	13.25	5	2
11	57.88	-15.62	7.49	5	2
12	65.43	-33.2	19.97	5	2
13	-68.47	-22.66	-15.74	5	1
14	-68.3	-41.41	-5.14	5	1
15	-57.75	-29.7	-3.94	5	1
16	-55.72	-12.96	-10.24	5	1
17	-52.89	2.55	-27.06	5	1
18	-49.3	-42.15	0.83	5	1
19	-45.79	-60.69	20.85	5	1
20	-46.17	31.26	-13.03	5	1
21	-44.45	-64.64	34.78	5	1
22	-40.5	-75.27	25.8	5	1
23	-39.05	-74.95	43.72	5	1
24	-35.36	19.86	50.8	5	1
25	-19.78	45.07	39.48	5	1
26	-20.16	63.65	19.39	5	1
27	-17.65	63.19	-9.17	5	1
28	-16.4	28.52	53.05	5	1
29	-12.6	-39.64	0.93	5	1
30	-11.29	-56.2	15.6	5	1

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Sr. no	x	y	z	Radius (mm)	Brain Cortices*
31	-10.09	39.09	52.29	5	1
32	-10.33	54.63	38.71	5	1
33	-11.06	44.62	7.61	5	1
34	-7.55	48.08	23.18	5	1
35	-6.84	-54.9	27.05	5	1
36	-7.04	50.82	-1.29	5	1
37	-2.94	-48.79	12.87	5	1
38	-2.2	-36.68	43.85	5	1
39	-3.06	44.41	-9.46	5	1
40	-2.06	37.85	36.34	5	1
41	-2.5	41.7	16.05	5	1
42	-33.93	-38.06	-15.6	5	1
43	5.55	66.69	-3.55	5	2
44	5.91	-58.82	35.45	5	2
45	5.94	54.42	16.18	5	2
46	6.11	63.98	21.96	5	2
47	7.94	-48.37	30.57	5	2
48	7.51	42.49	-5.35	5	2
49	8.36	47.59	-15.18	5	2
50	8.8	54.23	3.45	5	2
51	10.77	-53.83	17.09	5	2
52	12.73	54.87	38.19	5	2
53	13.08	29.99	58.65	5	2
54	12.25	35.63	20.3	5	2
55	15.12	-63.09	25.98	5	2
56	22.11	39.21	38.9	5	2
57	23.33	33.07	47.68	5	2
58	43.43	-72.21	28	5	2
59	45.64	16.2	-30.02	5	2
60	46.68	-50.08	28.76	5	2
61	49.26	35.47	-12.2	5	2
62	52.04	-59.37	35.52	5	2
63	52.16	-2.43	-16.4	5	2
64	51.9	6.81	-29.61	5	2

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Sr. no	x	y	z	Radius (mm)	Brain Cortices*
65	64.64	-11.8	-19.3	5	2
66	64.8	-30.55	-8.7	5	2
67	-25.24	-38.78	-2.01	4	3
68	25.08	-37.18	-2.16	4	3
69	3.42	-7.79	8.23	4	6
70	-2.88	-9.96	8.5	4	6

* Brain Cortices: 0=cortexMid, 1=cortexL, 2=cortexR, 3=hippocampus, 4=amygdala, 5=basalGanglia, 6=thalamus, 7=cerebellum.

Table 2: Overview of Training Data and Domain Characteristics of Five State-of-the-Art LLMs

Model	Training Data Sources	Key Domains / Corpora	Multilingual Coverage	Special Focus Areas	Knowledge Cutoff
Claude 3 Opus (A. Anthropic, 2024) (Anthropic, 2024)	1. Proprietary mix of public web data 2. Third-party licensed data, 3. Data labeling 4. Internally generated synthetic data	General web text, curated instructional content	Some multilingual data, not emphasized	Safety, helpfulness, and ethical alignment; no code emphasis	August-2023
Perplexity (GPT-4 Turbo) (O. AI, 2024)	1. Large-scale mix of public internet data 2. Licensed datasets 3. Books and images.	Web text, books, licensed data, Reddit, code, images	Limited multilingual support	Multimodal (vision + text), fine-tuned with human feedback	April-2023
ChatGPT-4 (O. AI, 2024)	1. Similar to GPT-4 Turbo 2. Multimodal public + licensed data	Web text, licensed datasets, books, code, images	Limited multilingual coverage	Multimodal input, fine-tuned with RLHF	April-2023
LLaMA 3.1 (M. AI, 2024)	1. Over 15 trillion tokens from public sources only. 2. No proprietary or licensed data.	Wikipedia, books, GitHub (code), scientific content	~5% of data in 30+ languages	Strong on code, reasoning, and multilingual filtering	Mid-2023
MS-Copilot (Phi-3 14B) (Abdin et al., 2024)	1. 3.3T tokens from filtered public web data. 2. Synthetic educational content	Textbooks, step-by-step QA, scientific/math instruction	Multilingual not emphasized	Small, efficient model for math, logic, structured reasoning	2023

Table 3: Mean and Standard deviation (Std) of classification accuracies for individual LLMs based scene parcellation.

Auditory									
	Individual LLMs (Std)			Individual LLMs (Mean)			Proposed Framework		
	Logist	SVM	RF	Logist	SVM	RF	Logist	SVM	RF
Accuracy	2.1	2.1	2.7	63.4	61	68.2	69	64	70
F1.score	2.2	2.1	2.4	63.6	62	64.4	69	65	67

DMN									
	Individual LLMs (Std)			Individual LLMs (Mean)			Proposed Framework		
	Logist	SVM	RF	Logist	SVM	RF	Logist	SVM	RF
Accuracy	2.3	1.9	2.2	67.2	65.4	70	72	72	72
F1.score	2.0	2.4	2.4	65.4	65.2	66	70	70	68

References

- Abdin, M., Aneja, J., Awadalla, H., Awadallah, A., Awan, A. A., Bach, N., Bahree, A., Bakhtiari, A., Bao, J., Behl, H., et al. (2024). Phi-3 technical report: A highly capable language model locally on your phone. *arXiv preprint arXiv:2404.14219*.
- AI, M. (2024). Meta-llama-3 [[Accessed 22-10-2024]].
- AI, O. (2024). How chatgpt and our foundation models are developed [[Accessed 22-10-2024]].
- Anthropic. (2024). Anthropic’s Transparency Hub — anthropic.com [[Accessed 22-10-2024]].
- Anthropic, A. (2024). The claude 3 model family: Opus, sonnet, haiku. *Claude-3 Model Card*, 1, 1.
- Seitzman, B. A., Gratton, C., Marek, S., Raut, R. V., Dosenbach, N. U., Schlaggar, B. L., Petersen, S. E., & Greene, D. J. (2020). A set of functionally-defined brain regions with improved representation of the subcortex and cerebellum. *Neuroimage*, 206, 116290.