

Abraham Jacob (Bram) Fresen

PhD Researcher · NeuroAI

Predictive computation in language — language models, brain data, interpretability.

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Research interests: NeuroAI · Predictive computation · Model–brain alignment · Interpretability & probing · Mechanistic interpretability · Change interpretability · Computational linguistics

EDUCATION

- 2022 – 2025 Research MSc Brain & Cognitive Sciences (Cum Laude)
University of Amsterdam
- 2017 – 2022 BSc Cognition, Language and Communication, minor Artificial Intelligence
University of Amsterdam

EXPERIENCE

- 2026 – *present* PhD Researcher — Language and Predictive Computation Group, MPI for Psycholinguistics, Nijmegen. Supervised by Dr. Micha Heilbron.
- 2026 – *present* AI & Innovation Consultant — ClickValue (part-time)
- 2024 – 2026 AI & Innovation Consultant — ClickValue (full-time)
- 2024 – 2025 Research Intern, NeuroAI & interpretability — Amsterdam Brain & Cognition (ABC), University of Amsterdam. Causal probing of LLM representations against fMRI and concept erasure (LEACE); supervised by Dr. Micha Heilbron.
- 2023 – 2024 Research Intern, model–brain alignment — Institute for Logic, Language and Computation (ILLC), University of Amsterdam. LLM–fMRI alignment and dependency probing (DepProbe); supervised by Dr. Jelle Zuidema & Marianne de Heer Kloots.
- 2018 – 2024 Teaching Assistant (statistics, cognition, research methods) — University of Amsterdam
- 2022 Research Intern, psycholinguistics (EEG) — University of Amsterdam. Supervised by Dr. Monique Flecken.

PUBLICATIONS

Fresen, A. J., Choenni, R., Heilbron, M., Zuidema, W., & de Heer Kloots, M.

Language models that accurately represent syntactic structure exhibit higher representational similarity to brain activity. *Proceedings of the 46th Annual Meeting of the Cognitive Science Society (CogSci) (2024)* [\[PDF\]](#)