Konstantinos Voudouris

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EXPERIENCE

Post-doctoral Research Scientist, Helmholtz Munich — Munich, Germany
Institute for Human-Centered AI (PI: Eric Schulz) — *Jul 2024–Present*

Post-doctoral Research Assistant/Associate, University of Cambridge — Cambridge, UK
Major Transitions in the Evolution of Cognition (PIs: M. Halina, A. Barron, C. Klein) — *Nov 2023–Jul 2024*

COVID-19 Infection Survey Analyst — Newport, Wales
Office for National Statistics — *Jul-Oct 2021*

EDUCATION

PhD (Psychology, Philosophy of Science, Artificial Intelligence) — University of Cambridge
*Passed with **no corrections** (Thesis: From Animals to Algorithms).* — *Oct 2020–Mar 2024*

Visiting Scholar — University of California, Berkeley
Psychology Department (Sponsor: Alison Gopnik) — *Jul–Sep 2023*

MPhil (Biological Sciences: Psychology) — University of Cambridge
*Passed with **minor corrections*** — *Oct 2019–Sep 2020*

MA *Cantab.* (Theoretical and Applied Linguistics) — University of Cambridge
*Starred Double First, **1st in cohort*** — *Oct 2016–Jun 2019*

SELECTED PEER-REVIEWED PUBLICATIONS (*First Author, †Senior Author)

Slater, B., Mecattaf, M. G., Tešić, M., Prunty, J., **Voudouris, K.**[†] & Cheke, L. G.[†] (forthcoming). A little less conversation, a little more action, please: Investigating the physical common-sense of LLMs in a 3D embodied environment. *PRICAI 2025.* (Pre-Print)

Voudouris, K.[*] (forthcoming). Cognitive Simplicity As An Idealization. *Animal Behavior & Cognition.* (Pre-Print)

Voudouris, K.[*] (2025). Analogies And The Associative-Cognitive Distinction In Comparative Psychology. *Biology & Philosophy, 40, 19.* (Pre-Print)

Voudouris, K.[*], Schulze-Buschoff, L. M.[*], Akata, E., Bethge, M., Tenenbaum, J., & Schulz, E. (2025) Testing the limits of fine-tuning for improving visual cognition in vision language models. *42nd Intl Conference on Machine Learning.* (Pre-Print)

Pacchiardi, L., **Voudouris, K.**, Slater, B., Martinez-Plumed, F., Zhou, L., Hernández-Orallo, J., & Schellaert, W. (2025) PredictaBoard: Benchmarking LLM Score Predictability. *Findings of the ACL.* (Pre-Print)

Voudouris, K.[*], Cheke, L. G., & Schulz, E. Bringing comparative cognition approaches to AI systems. *Nature Reviews Psychology.*

Voudouris, K.[*], ..., & Cheke, L. G. (2025) The Animal-AI Environment: A Virtual Laboratory For Comparative Cognition and Artificial Intelligence Research. *Behavior Research Methods, 57:107.*

Kipnis, A., **Voudouris, K.**, Buschoff Schulze, L., & Schulz, E. (2025) metabench–A sparse benchmark for reasoning and knowledge in large language models. *13th Intl Conference on Learning Representations. (ICLR) 2025.* (Pre-Print).

Voudouris, K.[*], Farrar, B. G., Cheke, L. G., & Halina, M. (2025) Morgan's Canon and the Associative-Cognitive Distinction Today: A Survey of Practitioners. *Journal of Comparative Psychology* (Pre-Registration; Pre-Print).

Voudouris, K.[*] & Roe, N. (2024) Metatheoretical Linguistics: A Philosopher's Guide. *Biolinguistics, 18*, 1–15.

Voudouris, K.[*], Liu, J. D., Siwinska, N., Schellaert, W., & Cheke, L. G. (2024). Investigating Object Permanence in Deep Reinforcement Learning Agents. In *Proceedings of the Annual Meeting of the Cognitive Science Society (Vol. 46).*

Voudouris, K.[*], Cheke, L. G., & Halina, M. (2024). The Future is Computational Comparative Cognition. *Comparative Cognition & Behavior Reviews, 19.*

Voudouris, K.[*], Donnelly, N., Rutar, D., Burnell, R., Burden, J., Hernández-Orallo, J., & Cheke, L. G. (2022). Evaluating Object Permanence in Embodied Agents Using the Animal-AI Environment. *EBeM'22: Workshop on AI Evaluation Beyond Metrics, July 25, 2022, Vienna, Austria.*

Voudouris, K.[*], Crosby, M., Beyret, B., Hernández-Orallo, J., Shanahan, M., Halina, M., & Cheke, L. (2022). Direct Human-AI Comparison in the Animal-AI Environment. *Frontiers in Psychology 13:711821.*

Research Project Supervision

PhD Student Assistant Supervisor Jul 2024—Present
Helmholtz Munich - 2 students *Munich, Germany*
Psychology & Behavioural Sciences Dissertation Supervisor Oct 2021—Jun 2023
Department of Psychology (Statistics, AI Evaluation, Cognitive Modelling) - 4 Students *Cambridge, UK*

Selected Invited Talks, Workshops, & Symposia (‡Co-Presented)

What Are AI Capabilities & How Can We Measure Them? *Science of Intelligence Seminar, March 20 2025, TÜ Berlin.*

Generalization in Fine-Tuned Vision Language Models *Kinds of Kinds of Intelligence, January 31 2025, University of Cambridge.*

Intuitive Physics in Animals and Machines *Intuitive Physics Across Species and Development Workshop, December 17-18 2024, MPI for Evolutionary Anthropology, Leipzig, Germany.*

Measurement Layouts for Capability-oriented AI Evaluation‡ *AAAI-24, February 20 2024, Vancouver, Canada.*

Studying Artificial and Natural Intelligence with the Animal-AI Environment *ARCANI Workshop, March 28 2024, Macquarie University, Sydney, Australia.*

Oops, I Did It Again: A typology of phonological iterativity‡ *Penn Linguistics Conference March 20 2021.*

Workshops, Tutorials, & Symposia

Co-organiser and co-presenter of the *Measurement Layouts for Capability-oriented AI Evaluation* Lab at AAAI-24 (Vancouver, Feb 2024).

Co-organiser of the *Predictable AI* Conference in Valencia, Spain (8th March 2023).

Research Grants

Voudouris, K.. Graham, C. R. Scimeca, L, Roll, N. Methods for evaluating short-cut learning in transformer-based ASR systems and its implications. **(£3,120).** *Cambridge Language Sciences Incubator Fund 2021.*

Voudouris, K.. Graham, C. R., and Shinohara, Y. AccentBench: A Framework for evaluating ASR generalisation from native to non-native speech. **(£2,960).** *Cambridge Language Sciences Incubator Fund 2022.*

Teaching

Cambridge University Undergraduate Supervision: **Cognitive Neuroscience & Experimental Psychology** (Part IB, second-year; 2022-2023), **Philosophy of Cognitive Science** (Part II, third-year; 2022-2023), **Comparative Cognition** (Part II, third-year; 2022-2023), **Phonological Theory** (Part II, second- and third-year; 2020-2022). **Introduction to Linguistics** (2020, 2021; Syllabus).

Media & Professional Services

Interview with Greg Goth for *Communications of the ACM* (Sept 2022) Is AI Becoming Sentient? **Podcast with Kyle Polich** for *DataSkeptic* (May 2024) Evaluating AI Abilities. **CFI Blog** (June 2024) Cognitive Psychology for AI Evaluation. **Reviewer for** *Synthese, Linguistics Vanguard, ICLR 2025, British Journal of Philosophy of Science, CogSci 2025, CCN 2025, AI & Society.*

Technical Skills

Programming Languages: Python, Julia, R, PowerShell, SQL, LaTeX.
Libraries and Frameworks: git, Docker, Lux.jl, MySQL, SLURM, tidyverse, torch, transformers, trl, unsloth.
Natural Languages: English (native), Greek (C1), French (B2), German (B1), Turkish (A2), Mandarin Chinese (A2).

References

Eric Schulz Postdoc Advisor (eric.schulz@helmholtz-munich.de)

Lucy Cheke PhD Supervisor (lgc23@cam.ac.uk)

Marta Halina PhD Supervisor (mh801@cam.ac.uk)

José Hernández-Orallo Academic Collaborator (jorallo@upv.es)

Nicola Clayton PhD Examiner (nsc22@cam.ac.uk)

Cameron Buckner PhD Examiner (cjbuckner@uh.edu)