Guillermo Puebla

Curriculum Vitae

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Experiencia Profesional

2023–actual	**Profesor Asistente**, *Instituto de Alta Investigación*, Universidad de Tarapacá, Chile.
2023–actual	**Colaborador Asociado**, *Centro Nacional de Inteligencia Artificial*, Chile.
2023	**Investigador Postdoctoral**, *Centro Nacional de Inteligencia Artificial*, Chile.
2021–2022	**Investigador Postdoctoral**, *University of Bristol*, Reino Unido.

Educación

2022	**PhD, Psychology**, *University of Edinburgh*, Reino Unido.
2018	**MSc. Psychology**, *University of Edinburgh*, Reino Unido.
2015	**MPhil. Psychology**, *University of Queensland*, Australia.
2008	**Licenciado en Psicología**, *Universidad de Tarapacá*, Chile.

Áreas de Investigación

Analogía y razonamiento relacional; redes neuronales artificiales; categorización y razonamiento causal; bases cognitivas de la tecnología; razonamiento heurístico y deliberativo.

Publicaciones

Preprints

1. Puebla, G. & Bowers, J. S. (2024). Visual Reasoning in Object-Centric Deep Neural Networks: A Comparative Cognition Approach arXiv:2402.12675.

2. Puebla, G., & Doumas, L. A. (2022). Learning Relational Rules from Rewards. arXiv:2203.13599.

Revistas

1. Fong, F. T. K., Puebla, G.& Nielsen, M. (2024). The Role of Conventionality and Design in Children's Function Judgments About Malfunctioning Artifacts. *Journal of Experimental Child Psychology, 240*, 105835.

2. Bowers, J. S., Malhotra, G., Adolfi, F. G., Dujmović, M., Montero, M. L., Biscione, V., Puebla, G., Hummel, J. & Heaton, R. F. (2023). On the importance of severely testing deep learning models of cognition. *Cognitive Systems Research, 82*, 101158.

3. Bowers, J. S., Malhotra, G., Dujmović, M., Montero, M. L., Tsvetkov, C., Biscione, V., Puebla, G., Adolfi, F., Hummel, J. E., Heaton, R., Evans, B. D., Mitchell, J. & Blything, R. (2023). Clarifying status of DNNs as models of human vision. *Behavioral and Brain Sciences*, 46, e415.

4. Bowers, J. S., Malhotra, G., Dujmović, M., Montero, M. L., Tsvetkov, C., Biscione, V., Puebla, G., Adolfi, F., Hummel, J. E., Heaton, R., Evans, B. D., Mitchell, J. & Blything, R. (2023). Deep Problems with Neural Network Models of Human Vision. *Behavioral and Brain Sciences*, 46, e385.

5. Puebla, G. & Bowers, J. S. (2022). Can deep convolutional neural networks support relational reasoning in the same-different task? *Journal of Vision, 22*(11), 1-18.

6. Doumas, L. A. A., Puebla, G., Martin, A. E., & Hummel, J. E. (2022). A theory of relation learning and cross-domain generalization. *Psychological Review, 129*(5), 999–1041.

7. Puebla, G., Martin, A. E. & Doumas, L. A. (2021). The relational processing limits of classic and contemporary neural network models of language processing. *Language, Cognition and Neuroscience, 36*(2), 240-254.

8. Chaigneau, S. E., Puebla, G. & Canessa, E. C. (2016). Why the designer's intended function is central for proper function assignment and artifact conceptualization: Essentialist and normative accounts. *Developmental Review, 41*, 38-50.

9. Puebla, G. & Chaigneau, S. E. (2014). Inference and coherence in causal-based artifact categorization. *Cognition, 130*(1), 50-65.

10. Chaigneau, S. E. & Puebla, G. (2013). The Proper Function of Artifacts: Intentions, Conventions and Causal Inferences. *Review of Philosophy and Psychology, 4*(3), 391-406.

Actas de congreso

1. Biscione, V., Yin, D., Malhotra, G., Dujmović, M., Montero, M. L., Puebla, G., Adolfi, F. G., Tsvetkov, C., Heaton, R. F., Hummel, J., Evans, B. D. & Bowers, J. S. (2023). Introducing the MindSet benchmark for comparing DNNs to human vision. *2023 Conference on Cognitive Computational Neuroscience*.

2. Puebla, G. & Bowers, J. S. (2023). The role of object-centric representations, guided attention, and external memory on generalizing visual relations. *2023 Conference on Cognitive Computational Neuroscience*.

3. Puebla, G. & Bowers, J. S. (2021). Can Deep Convolutional Neural Networks Learn Same-Different Relations? *Proceedings of the 43rd Annual Meeting of the Cognitive Science Society*, 1747-1752.

4. Doumas, L. A., Puebla, G., Martin, A. E. & Hummel, J. E. (2020). Relation learning in a neurocomputational architecture supports cross-domain transfer. *Proceedings of the 42nd Annual Meeting of the Cognitive Science Society*, 932-937.

5. Doumas, L. A., Puebla, G., Hummel, J. E. & Martin, A. E. (2019). Predicate learning via neural oscillations supports one-shot generalization between video games. *2019 Conference on Cognitive Computational Neuroscience*.

6. Puebla, G. & Chaigneau, S. E. (2019). A Piecemeal Processing Strategy Model for Causal-Based Categorization. *Proceedings of the 41st Annual Virtual Meeting of the Cognitive Science Society*, 2613-2619.

7. Puebla, G., Doumas, L. A. & Martin, A. E. (2019). The relational processing limits of classic and contemporary neural network models of language processing. *2019 Conference on Cognitive Computational Neuroscience*.

8. Doumas, L. A., Hamer, A., Puebla, G. & Martin, A. E. (2017). A theory of the detection and learning of structured representations of similarity and relative magnitude. *Proceedings of the 39th annual conference of the cognitive science society, 1955-1960.*

9. Puebla-Ramírez, G. & Chaigneau, S. (2011). Is the Centrality of Design History Function an Effect of Causal Knowledge? *Proceedings of the 33rd Annual Meeting of the Cognitive Science Society*, 1533-1538.

Fondos de Investigación Concursables

2024-2027 **Proyecto FONDECYT de Iniciación No. 11241282**, *3D Symmetry Perception and Shape Constancy in Infants and Deep Neural Networks*, Investigador Principal: Guillermo Puebla.

2022-2024 **Proyecto FONDECYT regular No. 1220664**, *El rol del procesamiento heurístico y deliberativo de la información, la receptividad y el escepticismo ingenuo, en la susceptibilidad a la desinformación en el ámbito de la salud*, Investigador Principal: Rodrigo Ferrer Urbina; Co-Investigadores: Guillermo Puebla, Daniel Pérez-Zapata, Herman Elgueta, Marcos Carmona.

2019-2022 **Proyecto FONDECYT regular No. 1190006**, *A descriptive model of causal-based categorization*, Co-Investigador, Investigador Principal: Sergio Chaigneau; Co-Investigadores: Guillermo Puebla, Daniel Pérez-Zapata, Enrique Canessa.

Servicio editorial Ad Hoc

Cognition; *Journal of Experimental Psychology: Learning, Memory, and Cognition*; *Philosophical Transactions of the Royal Society B*; *Cognitive Science*; *PLOS ONE*; *Annual Conference of the Cognitive Science Society*; *Conference on Cognitive Computational Neuroscience*.

Cobertura en Medios de Divulgación Científica

2021 Pavlus, J. Same or Different? The Question Flummoxes Neural Networks. Quanta Magazine

Becas

2018 Beca de Doctorado en el Extranjero, Becas Chile.

2015 Beca de Master en el Extranjero, Becas Chile.

Lenguajes

Español **Lengua Materna**

Inglés **Avanzado**   *Conversacion, lectura y escritura fluida*

Software

Avanzado Python, Keras, PyTorch

Intermedio R, SPSS, LaTeX