

GUILLERMO ANTONIO PUEBLA RAMÍREZ

PERSONAL INFORMATION	Email: pueblaramirezg@gmail.com Website: www.guillermopuebla.com ORCID: 0000-0001-7002-7776	
PROFESSIONAL EXPERIENCE	Assistant Professor Economics and Administration School, Universidad de Tarapacá	Santiago, Chile 2024-Present
	Research Associate National Center for Artificial Intelligence	Santiago, Chile 2024-Present
	Postdoctoral Researcher National Center for Artificial Intelligence	Santiago, Chile 2023
	Postdoctoral Researcher School of Psychological Science, University of Bristol	Bristol, United Kingdom 2021-2022
EDUCATION	PhD in Psychology University of Edinburgh	Edinburgh, United Kingdom 2022
	MPhil in Psychology University of Queensland	Brisbane, Australia 2015
	BSc in Psychology Universidad de Tarapacá	Arica, Chile 2008
PUBLICATIONS	JOURNAL ARTICLES	
	Puebla, G., & Bowers, J. S. (2025). Visual reasoning in object-centric deep neural networks: A comparative cognition approach. <i>Neural Networks</i> , 189, 107582. doi: 10.1016/j.neunet.2025.107582	
	Marchant, N., Puebla, G., & Chaigneau, S. E. (2025). Rules in the mist: Emerging probabilistic rules in uncertain categorization. <i>Cognition</i> , 264, 106264. doi: 10.1016/j.cognition.2025.106264	
	Fong, F. T., Puebla, G., & Nielsen, M. (2024). The role of conventionality and design in children's function judgments about malfunctioning artifacts. <i>Journal of Experimental Child Psychology</i> , 240, 105835. doi: 10.1016/j.jecp.2023.105835	
	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. <i>Cognitive Systems Research</i> , 82, 101158. doi: 10.1016/j.cogsys.2023.101158	
	Bowers, J. S., Malhotra, G., Dujmović, M., Montero, M. L., Tsvetkov, C., Biscione, V., Puebla, G., Adolfi, F., Hummel, J. E., Heaton, R. F., & et al. (2023). Clarifying status of dnns as models of human vision. <i>Behavioral and Brain Sciences</i> , 46, e415. doi: 10.1017/S0140525X23002777	

Bowers, J. S., Malhotra, G., Dujmović, M., Llera Montero, M., Tsvetkov, C., Biscione, V., Puebla, G., Adolfi, F., Hummel, J. E., Heaton, R. F., & et al. (2023). Deep problems with neural network models of human vision. *Behavioral and Brain Sciences*, 46, e385. doi: [10.1017/S0140525X22002813](https://doi.org/10.1017/S0140525X22002813)

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. doi: [10.1167/jov.22.10.11](https://doi.org/10.1167/jov.22.10.11)

Doumas, L. A., Puebla, G., Martin, A. E., & Hummel, J. E. (2022). A theory of relation learning and cross-domain generalization. *Psychological Review*, 129(5), 999. doi: [10.1037/revo0000346](https://doi.org/10.1037/revo0000346)

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. doi: [10.1080/23273798.2020.1821906](https://doi.org/10.1080/23273798.2020.1821906)

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. doi: [10.1016/j.dr.2016.06.002](https://doi.org/10.1016/j.dr.2016.06.002)

Puebla, G., & Chaigneau, S. E. (2014). Inference and coherence in causal-based artifact categorization. *Cognition*, 130(1), 50–65. doi: [10.1016/j.cognition.2013.10.001](https://doi.org/10.1016/j.cognition.2013.10.001)

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. doi: [10.1007/s13164-013-0146-3](https://doi.org/10.1007/s13164-013-0146-3)

CONFERENCE PROCEEDINGS

Marchant, N., Puebla, G., Quillien, T., & Chaigneau, S. E. (2024). Rationally uncertain: Investigating deviations from explaining away and screening off in causal reasoning. *Proceedings of the Annual Meeting of the Cognitive Science Society*, 46. <https://escholarship.org/uc/item/31r8z1h8>

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*. https://2023.ccneuro.org/view_paper35ce.html?PaperNum=1127

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*. https://2023.ccneuro.org/view_paperc93f.html?PaperNum=1499

Puebla, G., & Bowers, J. (2021). Can deep convolutional neural networks learn same-different relations? *Proceedings of the Annual Meeting of the Cognitive Science Society*, 43. <https://escholarship.org/uc/item/4d13996b>

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 Annual Meeting of the Cognitive Science Society*, 42. <https://escholarship.org/uc/item/35v29557>

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*. <https://2019.ccneuro.org/Papers/ViewPapersced.html?PaperNum=1112>

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 Annual Meeting of the Cognitive Science Society*, 39. <https://escholarship.org/uc/item/9z189ocr>

Puebla-Ramírez, G., & Chaigneau, S. (2011). Is the centrality of design history function an effect of causal knowledge? *Proceedings of the Annual Meeting of the Cognitive Science Society*, 33. <https://escholarship.org/uc/item/1dk748w1>

MEDIA
COVERAGE

Glickman, K. (2025, December 30). Computers are getting much better at learning to “see”. <https://knowablemagazine.org/content/article/technology/2025/how-computers-are-getting-better-recognizing-images>

O’Grady, C. (2025, July 2). Researchers claim their ai model simulates the human mind. others are skeptical. <https://www.science.org/content/article/researchers-claim-their-ai-model-simulates-human-mind-others-are-skeptical>

Pavlus, J. (2021, June 23). Same or different? the question flummoxes neural networks. <https://www.quantamagazine.org/same-or-different-ai-cant-tell-20210623/>

GRANTS

A new look at human innovation: decoding the brainwaves and behaviors behind breakthroughs

Chile

Co-Investigator (PI Felipe Munoz-Rubke)
National Agency for Research and Development

2025-2029

3D symmetry perception and shape constancy in infants and deep neural networks

Chile

Principal Investigator
National Agency for Research and Development

2024-2027

El rol de 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

Chile

Co-Investigator (PI Rodrigo Ferrer-Urbina)
National Agency for Research and Development

2022-2024

A descriptive model of causal-based categorization

Chile

Co-Investigator (PI Sergio Chaigneau)
National Agency for Research and Development

2019-2022

SCHOLARSHIPS

International PhD scholarship

Chile

National Agency for Research and Development

2018-2022

International Master’s scholarship

Chile

National Agency for Research and Development

2013-2015

TEACHING

Introduction to Artificial Intelligence

2025

Undergraduate, Universidad de Tarapacá

Introduction to Deep Learning

2025

Undergraduate, Universidad de Tarapacá

Generative Artificial Intelligence and Language Models
Postgraduate diploma, National Center for Artificial Intelligence

2024

Quantitative Methods for Psychology II
Undergraduate, Universidad de Tarapacá

2009

Quantitative Methods for Psychology I
Undergraduate, Universidad de Tarapacá

2009

PROFESSIONAL
SERVICE

Psychological Review, Cognition, Philosophical Transactions of the Royal Society B, Journal of Experimental Psychology: Learning, Memory, and Cognition, PLOS Computational Biology, Artificial Intelligence Review, Cognitive Science, Cognitive Systems Research, PLOS ONE, Vision Research, Transactions on Machine Learning Research, Machine Vision and Applications

2017-present

SEMINAR SERIES ORGANIZER

Generalization in Mind & Machine, University of Bristol
<https://mindandmachine.blogs.bristol.ac.uk/seminars>

2022

Ciencias Cognitivas en Chile: Desarrollos Actuales, Online
<https://sites.google.com/view/cienciascognitivaschile>

2021

LANGUAGES

Spanish

Native

English

Advanced