Brenden Eum

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Employment

Rotman School of Management, University of Toronto *Toronto, ON*
Postdoctoral Fellow, Marketing *2024 - 2026 (expected)*
- Principal Investigator: Ryan Webb

Education

California Institute of Technology *Pasadena, CA*
PhD Social & Decision Neuroscience *2019 - 2024*
- Advisor: Antonio Rangel
- Committee: Colin Camerer, Michael Woodford, Charlie Sprenger

Columbia University *New York, NY*
MA Economics *2016 - 2017*
- Advisor: Brendan O'Flaherty

New York University *New York, NY*
BA Economics, Minor in Mathematics *2014 - 2016*
- Magna Cum Laude

Chapman University *Orange, CA*
BA Political Science, Economics (Transferred Out) *2012 - 2014*
- Accelerated 4+1 MBA Program

Awards, Fellowships, & Grants

2023-2024	**Graduate Fellowship**, A. Michael and Ruth C. Lipper Graduate Fellowship Fund	*$ 22,500*
2023	**Kanel Scholarship**, The John and Ursula Kanel Charitable Foundation	*$ 10,000*
2022	**Chen Graduate Innovator Grant**, T&C Chen Center for Social & Decision Neuroscience	*$ 10,000*
2021	**Brass Division Teaching Award**, Humanities and Social Sciences, Caltech	*$ 1,500*
2019	**Chen Graduate Fellowship**, T&C Chen Center for Social & Decision Neuroscience	*$ 95,700*
2017-2019	**Predoctoral Fellowship**, Joint Micro- & Macroeconomics, Columbia Business School	*$ 105,400*
2016	**NYU Founder's Day Scholar Award**, New York University	
2014	**Parliamentary Debate Gold Medalist**, Pacific Southwest Collegiate Forensics Tournament	

Publications

Eum, B., Dolbier, S., & Rangel, A. (2023). Peripheral Visual Information Halves Attentional Choice Biases. *Psychological Science*, 34(9), 984-998. https://doi.org/10.1177/09567976231184878

Work in Progress

Eum, B., Gonzalez, S., & Rangel, A. Attention in Aversive Choice: Sequential Sampling Over Range-Normalized Value Signals.

Eum, B., Daviet, R., Hakimi, S., Knutson, B., & Webb, R. AI-Driven Interpretable Visual Features for Demand Neuroforecasting.

Eum, B. Attentional Biases Shape Heterogeneous Price Elasticity of Demand.

Eum, B. & Smith, S. Attention in Multi-Attribute Choices with Negative or Ambiguous Values.

Eum, B., Hutcherson, C., Oprea, R., & Webb, R. Cognition is the Invisible Hand: How Response Times Make Markets Allocationally Efficient.

Eum, B., Hutcherson, C., Oprea, R., & Webb, R. A Neuroeconomic Test of the Walrasian Hypothesis: How Price-Taking Behavior is Driven by Attention and Theory of Mind.

Presentations

Invited Talks

Eum, B., Daviet, R., Hakimi, S., Knutson, B., & Webb, R. "AI-Driven Interpretable Visual Features for Demand Neuroforecasting" 2025 (upcoming). 12th Consumer Neuroscience Satellite Symposium, MIT Sloan School of Management.

Eum, B., Daviet, R., Hakimi, S., Knutson, B., & Webb, R. "AI-Driven Interpretable Visual Features for Demand Neuroforecasting" 2025 (upcoming). Eigen AI Hackathon by UTMIST, TD Keynote Talk, University of Toronto.

Eum, B., Daviet, R., Hakimi, S., Knutson, B., & Webb, R. "AI-Driven Interpretable Visual Features for Demand Neuroforecasting" 2025 (upcoming). Toyota Research Institute Site Visit, Rotman School of Management, University of Toronto.

Eum, B., Gonzalez, S., & Rangel, A. "Attentional Over-Weighting in Gains, Attentional Under-Weighting in Losses" 2023. Society for Neuroeconomics, Vancouver, Canada.

Eum, B., Dolbier, S., & Rangel, A. "Looking at Attention in Value-Based Decision Making" 2023. Brownbag Seminars, Rotman School of Management, University of Toronto.

Eum, B., Dolbier, S., & Rangel, A. "Looking at Attention in Value-Based Decision Making" 2023. Shenhav Lab, Brown University.

Eum, B., Enkavi, Z., O'Doherty, J., & Rangel, A. "Value signals in the orbitofrontal cortex incorporate reference-dependent news utility" 2023. Caltech Brain Imaging Center, California Institute of Technology.

Eum, B., Enkavi, Z., O'Doherty, J., & Rangel, A. "Value signals in the orbitofrontal cortex incorporate reference-dependent news utility" 2023. Chen Institute Symposium, California Institute of Technology.

Eum, B., Dolbier, S., & Rangel, A. "Peripheral visual information halves attentional choice biases" 2022. Computational Cognitive Neuroscience Lab, University of California, Irvine.

Posters

Eum, B., Hutcherson, C., Oprea, R., & Webb, R. "Cognition is the Invisible Hand: How Response Times Make Markets Allocationally Efficient." 2026 (upcoming). Society for Judgment and Decision Making, Denver, Colorado.

Eum, B., Hutcherson, C., Oprea, R., & Webb, R. "Cognition is the Invisible Hand: How Response Times Encourage Allocational Efficiency in Markets." 2025 (upcoming). Society for Neuroeconomics, Boston, Massachusets.

Eum, B., Daviet, R., Hakimi, S., Knutson, B., & Webb, R. "AI-Driven Interpretable Visual Features for Demand Neuroforecasting" 2025 (upcoming). Society for Neuroeconomics, Boston, Massachusets.

Eum, B., Gonzalez, S., & Rangel, A. "Attentional Over-Weighting in Gains, Attentional Under-Weighting in Losses" 2023. Society for Judgement and Decision Making, San Francisco, California.

Eum, B., Gonzalez, S., & Rangel, A. "Attentional Over-Weighting in Gains, Attentional Under-Weighting in Losses" 2023. Association for Consumer Research, Seattle, Washington.

Eum, B., Gonzalez, S., & Rangel, A. "Attentional Over-Weighting in Gains, Attentional Under-Weighting in Losses" 2023. Interdisciplinary Symposium on Decision Neuroscience, Fox School of Business, Temple University.

Eum, B., Gonzalez, S., & Rangel, A. "Attentional Over-Weighting in Gains, Attentional Under-Weighting in Losses" 2023. Neuroeconomics Summer School, University of Pennsylvania.

Eum, B., Enkavi, Z., O'Doherty, J., & Rangel, A. "Value signals in the orbitofrontal cortex incorporate reference-dependent news utility" 2023. Curiosity, Creativity, Complexity. Columbia University.

Eum, B., Dolbier, S., & Rangel, A. "Peripheral visual information halves attentional choice biases" 2022. Society for Judgement and Decision Making, San Diego, California.

Eum, B., Dolbier, S., & Rangel, A. "Peripheral visual information halves attentional choice biases" 2022. Society for Neuroeconomics, Arlington, Virginia.

Eum, B., Dolbier, S., & Rangel, A. "Peripheral visual information halves attentional choice biases" 2022. Cognitive Computational Neuroscience, San Francisco, California.

Eum, B., Dolbier, S., & Rangel, A. "Peripheral visual information halves attentional choice biases" 2022. Chen Institute Retreat, Pasadena, California.

Eum, B., Dolbier, S., & Rangel, A. "Peripheral visual information halves attentional choice biases" 2022. The Neurobiology of Reward and Decision-Making, Lake Arrowhead, California.

Teaching Experience

2024-2025 **Rotman Commerce Coding Cafe**, Instructor, Machine Learning in Python and R
2020-2023 **Certificate of Practice in University Teaching**, from Caltech Teaching, Learning, & Outreach
2021-2023 **Bayesian Statistics**, Teaching Assistant for Antonio Rangel (Avg. Evaluation: 4.86/5)
2020-2023 **Social & Decision Neuroscience Bootcamp**, Instructor, Microeconomics & Statistics
2020 **Introduction to Economics**, Teaching Assistant for Charlie Plott (Avg. Evaluation: 4.58/5)

Mentoring

2025 **Lu Huang**, TDMDAL Research Assistant, Co-Mentor with Ryan Webb
2023 **Ella Onderdonk**, Caltech SURF Program, Co-Mentor with Antonio Rangel
2021 **Trinity Pruitt**, WAVE Fellowship Program, Co-Mentor with Antonio Rangel

Professional Experience

2016 **Economic Research Assistant**, Haver Analytics
2014-2015 **White Collar Criminal Justice Legal Assistant**, Varghese & Associates, PC
2014 **Personal Injury Legal Clerk**, Law Offices of Day, Day, & Brown
2013 **Intern to Market Analyst**, Harvey & Company LLC
2012 **Business Law Intern**, Paragon Law Center, PC

Professional Development

Reviewing

Nature Communications (2025), Society for Consumer Psychology (2025), Cognitive and Computational Neuroscience (2022)

Organizer

Sole Organizer, Online Webcam Eye-Tracking in Behavioral Studies, with Guest Speaker Dr. Alexandra Papoutsaki (2023)
Lead Organizer, Social & Decision Neuroscience Bootcamp (2020-2023)
Co-Founder & Managing Editor, NYU Economics Review (2016)

Service

Volunteer, Music for Every Child Fundraiser (2025)
Mentor & Moderator, American Statistical Association DataFest @ UofT (2025)
Instructor, Python Workshop for Rotman Commerce Women in Business (2025)
Volunteer, Caltech Y Youth Outreach (2023)
Graduate Student Representative, Caltech Graduate Student Council (2021-2022)
Question Curator for Prof. Colin Camerer and Prof. Dean Mobbs, Chen Institute Seminar (2020)

Training Courses Attended

Neuroeconomics Summer School at the University of Pennsylvania (2023)
Summer School on the Cognitive Foundations of Economic Behavior in Vitznau, Switzerland (2022)

Media Coverage

NOMIS Foundation (2023), Peripheral visual information affects choice
Caltech HSS Year in Review (2023), Peripheral Visual Information Affects Choice
The Caltech News (2023), Peripheral Visual Information Affects Choice

Memberships

Society for Neuroeconomics
Society for Judgement and Decision Making
Association for Consumer Research
Phi Beta Kappa

Coding

R, Python (+PsychoPy), Julia, LaTeX

Selected Projects I Provided Research Assistance For

Backus, M., Blake, T., Larsen, B., & Tadelis, S. (2020). Sequential Bargaining in the Field: Evidence from Millions of Online Bargaining Interactions. *The Quarterly Journal of Economics*.

Backus, M., Blake, T., & Tadelis, S. (2019). On the Empirical Content of Cheap-Talk Signaling: An Application to Bargaining. *Journal of Political Economy*.

Backus, M. & Little A. T. (2020). I Don't Know. *American Political Science Review*.

Sicherman, N., Charite, J., Eyal, G., Janecka, M., Loewenstein, G., Law, K., Lipkin, PH., Marvin, AR., Buxbaum, JD. (2021). Clinical signs associated with earlier diagnosis of children with autism Spectrum disorder. *BMC Pediatrics*.

Hobbies

rock climbing, snowboarding, hiking, music production