

# Brenden Eum

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## Employment

### Rotman School of Management, University of Toronto

POSTDOCTORAL FELLOW, MARKETING

- Principal Investigator: Ryan Webb

Toronto, ON

2024 - 2026 (expected)

## Education

### California Institute of Technology

PHD SOCIAL & DECISION NEUROSCIENCE

- Advisor: Antonio Rangel
- Committee: Colin Camerer, Michael Woodford, Charlie Sprenger

Pasadena, CA

2019 - 2024

### Columbia University

MA ECONOMICS

- Advisor: Brendan O'Flaherty

New York, NY

2016 - 2017

### New York University

BA ECONOMICS, MINOR IN MATHEMATICS

- Magna Cum Laude

New York, NY

2014 - 2016

### Chapman University

BA POLITICAL SCIENCE, ECONOMICS (TRANSFERRED OUT)

- Accelerated 4+1 MBA Program

Orange, CA

2012 - 2014

## Awards, Fellowships, & Grants

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

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### 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, Massachusetts.
- Eum, B.,** Daviet, R., Hakimi, S., Knutson, B., & Webb, R. “AI-Driven Interpretable Visual Features for Demand Neuroforecasting” 2025 (upcoming). Society for Neuroeconomics, Boston, Massachusetts.
- Eum, B.,** Gonzalez, S., & Rangel, A. “Attentional Over-Weighting in Gains, Attentional Under-Weighting in Losses” 2023. Society for Judgment 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 Judgment 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

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- 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

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- 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

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- 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

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### REVIEWING

Conference on Cognitive and Computational Neuroscience (2022), Nature Communications (2025)

### 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, ~~TeX~~

## **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