

Jacob Aguirre

Operations Research Ph.D. Student
H. Milton Stewart School of Industrial and Systems Engineering
Georgia Institute of Technology

I. Earned Degrees

- Georgia Institute of Technology
(2023– Present) Doctor of Philosophy, Operations Research
(2022– Present) Master of Science, Statistics
(2022–2023) Master of Science, Economics
(2020–2022) Bachelor of Science, Economics, Mathematics
- Advisors: Dr. Anton Kleywegt & Dr. Renato D.C. Monteiro

II. Employment History

- (Summer 2023) Graduate Research Fellow, Oak Ridge National Laboratory
- (Spring 2023) Graduate Research Assistant, Georgia Institute of Technology
- (2020–2022) Undergraduate Teaching Assistant, Georgia Institute of Technology
- (2020–2022) Undergraduate Research Assistant, Georgia Institute of Technology

III. Honors and Awards

- (August 2023) Ernst & Young Fellowship
- (March 2023) NSF Graduate Research Fellowship
- (March 2023) DOE Computational Science Fellowship (Declined, Accepted NSF)
- (February 2023) Stewart ISyE Fellowship
- (February 2023) ISyE Travel Fund Fellowship
- (January 2023) GEM Foundation PhD Fellowship
- (Summer 2022) NSF SURE Research Fellow
- (Summer 2022) Georgia Tech Undergrad Presidential Research Scholar ($\times 2$)
- (May 2022) Georgia Tech SOE Outstanding Undergraduate Researcher
- (May 2022) Georgia Tech OMED Tower Award
- (2020–2022) Zell Miller (Full tuition) Scholarship

IV. Research, Scholarship, and Creative Activities

A. Refereed Publications and Submitted Articles

A1. Published and Accepted Journal Articles

- [J1] **Aguirre, J.**, Blecker, A., et al. (2023a). “Discovering Careers and Diversity in Economics Through Inter-Institutional Student Club Collaborative”. In: *The American Economist*.

A2. Conference Presentation with Proceedings (Refereed)

- [P3] * **Aguirre, J.**, Blecker, A., et al. (2023b). “Discovering Careers and Diversity in Economics Through Inter-Institutional Student Club Collaborative”. In: *American Economics Association Annual Meeting*. New Orleans, Louisiana.
- [P2] Dench, D., **Aguirre, J.**, (2023a). “The Effects of EVALI Crisis on Youth and Adult Use of e-Cigarettes”. In: *ASHEcon 2023 Conference*. ASHECON.
- [P1] **Aguirre, J.**, Blecker, A., Urmanbetova, A., et al. (2022a). “Discovering Careers and Diversity in Economics Through Inter-Institutional Student Club Collaborative”. In: *Southern Economics Association Annual Meeting*. Fort Lauderdale, Florida.

A3. Other Refereed Material

- [O3] * **Aguirre, J.** (July 2023). *A Mixed Integer Fair Facility Location Formulation for Accessible Abortion Services*. Masters Thesis, Georgia Institute of Technology.
- [O2] * **Aguirre, J.**, Ma, R., Patel, S., (May 2022). *A Review of High Dimensional Nonlinear Reduction Techniques*. Georgia Institute of Technology.
- [O1] * **Aguirre, J.** (2021). “How the EVALI crisis affected e-cig and cigarette use and perceptions: evidence from PATH”. Undergraduate Thesis. Georgia Institute of Technology.

A4. Submitted Journal Articles (with Date of Submission)

- [U4] **Aguirre, J.**, Ayer, T., (2023). “Estimating Heterogeneous Treatment Effects for Recurrent Breast Cancer: A Causal Inference Analysis using MarketScan Data.” Working paper.
- [U3] **Aguirre, J.**, Garcia, G., Dench, D., (2023). “An Inverse Markov Decision Process Approach to Optimal Smoking Cessation Treatment”. Working paper for *Health Care Management Science*.
- [U2] Liu, X., **Aguirre, J.**, Liu, X., (2023). “Optimal Compressed Sensing Dynamic Mode Decomposition for In-Situ Large-scale Dataset”.
- [U1] **Aguirre, J.**, Lee, S.-J., Garcia, G., (n.d.). “A Data-driven Optimization Approach to Designing Parsimonious, Interpretable, and Equitable Treatment Guidelines”. Working paper in preparation for Management Science.

B. Presentations

B1. Invited talks

- [I7] * **Aguirre, J.**, Archibald, R., Reshniak, V, (2023). “A Stochastic Control Framework for Controlled Learning on the Fly”. In: Oak Ridge National Laboratory.
- [I6] * Czerniak, L., **Aguirre, J.**, et al. (2023). “Minority Issues Forum PhD Panel”. In: *INFORMS Annual Meeting*. Phoenix, Arizona.
- [I5] The Ohio State University, *An Inverse Markov Decision Process Approach to Optimal Smoking Cessation Treatment*, (2023). In.
- [I4] Georgia Institute of Technology, Economics seminar, *How the EVALI crisis affected e-cig and cigarette use and perceptions: evidence from PATH*, (2022). In.
- [I3] Georgia Institute of Technology, Health Policy seminar, *How the EVALI crisis affected e-cig and cigarette use and perceptions: evidence from PATH*, (2022). In.

- [I2] The Ohio State University, Economics workshop, *How the EVALI crisis affected e-cig and cigarette use and perceptions: evidence from PATH*, (2022). In.
- [I1] University of Virginia, *How the EVALI crisis affected e-cig and cigarette use and perceptions: evidence from PATH*, (2022). In.

B2. Conference presentations

- [T6] * **Aguirre, J.**, Blecker, A., et al. (2023c). “Discovering Careers and Diversity in Economics Through Inter-Institutional Student Club Collaborative”. In: American Economics Association.
- [T5] * **Aguirre, J.**, Garcia, G., et al. (2023). “An Inverse Markov Decision Process Approach for Optimal Smoking Cessation”. In: *INFORMS Annual Meeting*. Phoenix, Arizona.
- [T4] Dench, D., **Aguirre, J.**, (2023b). “The Effects of EVALI Crisis on Youth and Adult Use of e-Cigarettes”. In: *ASHEcon 2023 Conference*.
- [T3] * **Aguirre, J.**, Blecker, A., Urmanbetova, A., et al. (2022b). “Discovering Careers and Diversity in Economics Through Inter-Institutional Student Club Collaborative”. In: Southern Economics Association.
- [T2] * **Aguirre, J.**, Dench, D., (2022). “How the EVALI crisis affected e-cig and cigarette use and perceptions: evidence from PATH”. In: Southern Economics Association Annual Meeting.
- [T1] * **Aguirre, J.**, Ma, R., Patel, S., (2022). “A Review of High Dimensional Nonlinear Reduction Techniques”. In: Undergraduate Math Research Conference at Georgia Tech.

C. Societal and Policy Impacts

I am an active member of the Georgia Governors Honors Program (GHP) and am a mathematics instructor every summer for the program, teaching courses in Applied Probability, Statistics, and Topology. Furthermore, I am affiliated with both Atlanta Public Schools and Cherokee County School District and mentor high school students in computer science and math.

D. Other Professional Activities

1. Standing Committee member for Presidential Undergraduate Research Awards (PURA) at Georgia Tech.

V. Education

A. Courses Taught or Assisted

Semester	Number	Course Title	# Students	TA
Fall 2022	ECON 8801	Grad. Behavioral Economics	17	Yes
Semester	Number	Course Title	# Students	TA
Fall 2022	ECON 4803	Behavioral Economics	35	Yes
Semester	Number	Course Title	# Students	TA
Summer 2022	ECON 2105	Intro to Macroeconomics	30	Yes
Semester	Number	Course Title	# Students	TA
Spring 2022	ECON 2105	Intro to Macroeconomics	78	Yes
Semester	Number	Course Title	# Students	TA
Spring 2022	ECON 2101	The Global Economy	76	Yes

B. Individual Student Guidance

B1. Undergraduate Students

Students advised as part of Undergraduate Research Ambassador Program

- Kun-Lin Hsieh (Math), Spring 2022
- Maggie Xia (Math), Spring 2022
- Dhairya Patel (Biology), Spring 2022
- Xinyu Chen (ISyE), Spring 2022
- Eric Chen (Economics), Fall 2021

VI. Service

A. Professional Contributions

A1. Appointments and Memberships

- (2022 – Present) Institute for Operations Research and Management Sciences (INFORMS)
 1. Mathematical Optimization Society (MOS)
 2. Transportation Society and Logistics (TSL)
 3. Minority Issues Forum (MIF)
 4. Health Applications Society (HAS)
 5. Manufacturing and Service Operations Management Society (MSOM)
- (2021 – Present) Institute of Industrial and Systems Engineers (IISE)
- (2020 – Present) Society of Industrial and Applied Mathematics (SIAM)
- (2020 – 2023) American Economics Association (AEA)
- (2020 – 2023) American Society of Health Economists (ASHEcon)

A2. Referee

No data.