

Gian-Gabriel P. Garcia

Postdoctoral Research Fellow
@ MGH-ITA Harvard Medical School

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Employment

Georgia Institute of Technology, Atlanta, GA

Assistant Professor, H. Milton Stewart School of Industrial and Systems Engineering

Starting 8/2021

Harvard Medical School, Boston, MA

Postdoctoral Fellow, Massachusetts General Hospital Institute for Technology Assessment

7/2020-7/2021

Education

PhD, Industrial and Operations Engineering

University of Michigan, Ann Arbor, MI

8/2020

M.S. Industrial and Operations Engineering

University of Michigan, Ann Arbor, MI

12/2016

B.S. Industrial Engineering, *Summa Cum Laude*

University of Pittsburgh, Pittsburgh, PA

12/2014

Selected Awards and Honors

Society of Medical Decision Making [Lee B. Lusted Student Prize](#)

Stephen Pauker Award for Quantitative Methods and Theoretical Developments

2020

INFORMS [Minority Issues Forum Paper Competition](#)

2020

College of Engineering [Towner Prize for Distinguished Academic Achievement](#)

2020

Society of Medical Decision Making [Lee B. Lusted Student Prize](#)

Stephen Pauker Award for Quantitative Methods and Theoretical Developments

2018

INFORMS [Bonder Scholarship](#) for Applied OR in Health Services

2018

National Science Foundation [Graduate Research Fellowship](#)

2017-2020

IOE [Graduate Student Instructor of the Semester](#)

2017

Research Interests

My current research develops data-driven frameworks for *Predictive Analytics* and *Prescriptive Analytics* as motivated by and applied to high-impact problems in *Medical Decision-Making*. I am especially interested in modeling the role of behavioral and social dynamics in decision-making under uncertainty.

Methodology

Predictive modeling, data-driven optimization, dynamic programming, (Partially Observable) Markov decision processes, machine learning, stochastic optimization, robust optimization, Kalman filtering, stochastic control, applied statistics, game theory, social network analysis

Applications

Medical decision-making, concussion management, opioid use disorder, post-traumatic stress disorder, detecting glaucoma progression, cardiovascular disease, value-based insurance design, vaccine delivery under resource constraints

Publications

Journal Articles

1. S. W. Liebel, K. L. Van Pelt, **G.-G. P. Garcia**, L. L. Czerniak, M. A. McCrea, T. W. McAllister, and S. P. Broglio (2020). The Relationship Between Sport-Related Concussion and Sensation-Seeking. *International Journal of Molecular Sciences* (Accepted)
2. L. L. Czerniak, S. W. Liebel, **G.-G. P. Garcia**, M. S. Lavieri, M. A. McCrea, T. W. McAllister, and S. P. Broglio (2020). Sensitivity and Specificity of Computer-Based Neurocognitive Assessments in Sport-Related Concussion: Findings from the NCAA-DoD CARE Consortium. *Sports Medicine* (Accepted)
3. **G.-G. P. Garcia**, J. Yang, M. S. Lavieri, T. W. McAllister, M. A. McCrea, and S. P. Broglio (2020). Optimizing Components of the Sport Concussion Assessment Tool for Acute Concussion Assessment. *Neurosurgery* (Accepted). ¹
4. **G.-G. P. Garcia**, M. S. Lavieri, R. Jiang, M. A. McCrea, T. W. McAllister, and S. P. Broglio (2020). Data-driven stochastic optimization approaches to determine decision thresholds for risk estimation models. *IIE Transactions* **52**(10), 1098–1121.
 - Winner, 2020 INFORMS Minority Issues Forum Paper Competition
 - Winner, 2018 SMDM Lee B. Lusted Prize in Quantitative Methods and Theoretical Developments
 - First Place, 2017 INFORMS Minority Issues Forum Poster Competition
5. **G.-G. P. Garcia**, M. S. Lavieri, C. Andrews, X. Liu, M. P. Van Oyen, M. A. Kass, M. O. Gordon, and J. D. Stein (2019). Accuracy of Kalman Filtering in Forecasting Visual Field and Intraocular Pressure Trajectory in Patients With Ocular Hypertension. *JAMA Ophthalmology* **137**(12), 1416–1423. ²
6. **G.-G. P. Garcia**, M. S. Lavieri, R. Jiang, T. W. McAllister, M. A. McCrea, and S. P. Broglio (2019). A Data-Driven Approach to Unlikely, Possible, Probable, and Definite Acute Concussion Assessment. *Journal of Neurotrauma* **36**(10), 1571–1583. ³
7. **G.-G. P. Garcia**, K. Nitta, M. S. Lavieri, C. Andrews, X. Liu, E. Lobaza, M. P. Van Oyen, K. Sugiyama, and J. D. Stein (2019). Using Kalman Filtering to Forecast Disease Trajectory for Patients With Normal Tension Glaucoma. *American Journal of Ophthalmology* **199**, 111–119. ⁴
8. G. J. Schell, **G.-G. P. Garcia**, M. S. Lavieri, J. B. Sussman, and R. A. Hayward (2019). Optimal Coinsurance Rates for a Heterogeneous Population under Inequality and Resource Constraints. *IIE Transactions* **51**(1), 74–91.
9. **G.-G. P. Garcia**, S. P. Broglio, M. S. Lavieri, M. McCrea, and T. McAllister (2018). Quantifying the Value of Multidimensional Assessment Models for Acute Concussion: An Analysis of Data from the NCAA-DoD Care Consortium. *Sports Medicine* **48**(7), 1739–1749. ⁵
10. M. H. Mofrad, **G.-G. P. Garcia**, L. M. Maillart, B. A. Norman, and J. Rajgopal (2016). Customizing Immunization Clinic Operations to Minimize Open Vial Waste. *Socio-Economic Planning Sciences* **54**(March 2016), 1–17.

Submitted Papers

1. **G.-G. P. Garcia**, M. S. Lavieri, T. W. McAllister, M. A. McCrea, and S. P. Broglio (2020). Estimating the Value of Incorporating Patient Behavior in Return-to-play from Concussion. *Operations Research* (Submitted)
 - Winner, 2020 SMDM Lee B. Lusted Prize in Quantitative Methods and Theoretical Developments
2. **G.-G. P. Garcia**, C. M. Schumb, M. S. Lavieri, H. Koffijberg, T. W. McAllister, M. A. McCrea, and S. P. Broglio (2020). Developing Insights for Possible and Probable Acute Concussions Using Cluster Analysis. *Journal of Neurotrauma* (Under review)
3. C. DiGenarro, **G.-G. P. Garcia**, E. J. Stringfellow, and M. S. Jalali (2020). Opioid Overdose Deaths during COVID-19 Pandemic: A Year-Over-Year Comparison and Call to Close the Data Gap. *American Journal of Public Health* (Submitted)

¹Impact Factor: 4.61

²Impact Factor: 6.17

³Impact Factor: 5.00

⁴Impact Factor: 4.80

⁵Impact Factor: 7.58

Working Papers

1. **G.-G. P. Garcia**, L. N. Steimle, and W. J. Marrero (2020). An Analysis of Structured Optimal Policies for Markov Decision Processes: The Tradeoff Between Optimality and Interpretability. *Manufacturing & Service Operations Management* (Target Journal)

Dissertation

- **G.-G. P. Garcia** (2020). "Predictive and Prescriptive Analytics for Concussion Management Decisions". PhD thesis. University of Michigan

Presentations

Invited Talks and Seminars

1. "Predictive and Prescriptive Analytics for Concussion Management Decisions" (n.d.)
 - MGH Institute for Technology Assessment, Harvard Medical School, August 2020
 - Department of Industrial and Systems Engineering, University of Minnesota, January 2020
 - Department of Industrial Engineering, Clemson University, January 2020
 - School of Industrial Engineering and Regenstrief Center for Healthcare Engineering, Purdue University, December 2019
 - H. Milton Stewart School of Industrial and Systems Engineering, Georgia Institute of Technology, December 2019
 - Department of Industrial and Systems Engineering, University of Florida, December 2019
2. "Data-driven Decision Thresholds for Risk Estimation Models with Application to Acute Concussion Assessment" (n.d.)
 - Edward P. Fitts Department of Industrial & Systems Engineering Department, North Carolina State University, April 2019
3. "Data-driven Optimization for Concussion Management Decisions" (n.d.)
 - Department of Industrial and Operations Engineering, University of Michigan, September 2018

Refereed Conference Abstracts and Presentations

1. **G.-G. P. Garcia**, M. S. Lavieri, T. W. McAllister, M. A. McCrea, and S. P. Broglio (2020). The Value of Incorporating Symptom-Reporting Behavior in Optimal Treatment Decisions: An Application to Return-to-Play from Sports-Related Concussion. *Society of Medical Decision Making 42nd Annual Meeting*, Chicago, IL
2. **G.-G. P. Garcia**, M. S. Lavieri, C. Andrews, X. Liu, M. P. Van Oyen, M. A. Kass, M. O. Gordon, and J. D. Stein (2019). Using a Machine Learning Technique Called Kalman Filtering to Forecast Conversion from Ocular Hypertension to Primary Open Angle Glaucoma. *The Association for Research in Vision and Ophthalmology*, Vancouver, BC
3. **G.-G. P. Garcia**, M. S. Lavieri, R. Jiang, M. A. McCrea, T. W. McAllister, and S. P. Broglio (2018). A Novel Data-Driven Framework for Improving Risk-Based Medical Diagnosis with Application to Acute Concussion Assessment. *Society of Medical Decision Making 40th Annual Meeting*, Montreal, QC
4. M. S. Lavieri, X. Liu, **G.-G. P. Garcia**, Z. Zhou, E. Lobaza, J. Wang, K. Sugiyama, K. Nitta, C. Andrews, M. P. Van Oyen, and J. D. Stein (2017). Using Kalman Filtering to Personalize the Monitoring of Persons with Normal Tension Glaucoma. *The Association for Research in Vision and Ophthalmology*, Baltimore, MD
5. **G.-G. P. Garcia**, M. S. Lavieri, and S. P. Broglio (2017). A Markov Decision Process to Model Symptom Self-Reporting Behavior in Concussion Management. *The 3rd Multidisciplinary Conference on Reinforcement Learning and Decision Making*, Ann Arbor, MI
6. **G.-G. P. Garcia**, M. S. Lavieri, and S. P. Broglio (2016). Quantifying Risk Thresholds for On-field Concussion Diagnosis. *Industrial and Systems Engineering Research Conference*, Anaheim, CA

Conference Presentations

1. **G.-G. P. Garcia**, M. S. Lavieri, T. W. McAllister, M. A. McCrea, and S. P. Broglio (2020). The Value of Incorporating Symptom-Reporting Behavior in Return-to-play from Concussion. *INFORMS Annual Meeting*, National Harbor, MD

2. **G.-G. P. Garcia**, M. S. Lavieri, and S. P. Broglio (2019). Optimizing Treatment Decisions Under Strategically Reported Symptoms. *INFORMS Annual Meeting* (Bonder Scholars Session), Seattle, WA
3. **G.-G. P. Garcia**, M. S. Lavieri, R. Jiang, T. W. McAllister, M. A. McCrea, and S. P. Broglio (2019). Data-driven Stochastic Optimization Approaches to Determine Decision Thresholds for Risk Estimation Models. *INFORMS Annual Meeting* (Invited Session), Seattle, WA
4. **G.-G. P. Garcia**, J. Yang, M. S. Lavieri, T. W. McAllister, M. A. McCrea, and S. P. Broglio (2019). Doing More with Less: Applying Modern Predictive Modeling Methods to Improve Acute Concussion Assessment. *INFORMS Healthcare* (Bonder Scholars Session), Boston, MA
5. **G.-G. P. Garcia**, M. S. Lavieri, T. W. McAllister, M. A. McCrea, and S. P. Broglio (2019). Optimizing Treatment Decisions Under Objective Clinical Measures and Strategically Reported Symptoms. *INFORMS Healthcare* (Invited Session), Boston, MA
6. **G.-G. P. Garcia**, M. S. Lavieri, and S. P. Broglio (2018). Optimization Approaches for Concussion Management Decisions. *INFORMS Annual Meeting* (Invited Session), Phoenix, AZ
7. **G.-G. P. Garcia**, M. S. Lavieri, and S. P. Broglio (2018). Data-driven Optimization Models for Concussion Management Decisions. *INFORMS Annual Meeting* (Bonder Scholars Session), Phoenix, AZ
8. **G.-G. P. Garcia**, M. S. Lavieri, R. Jiang, M. McCrea, T. W. McAllister, S. P. Broglio, and CARE Consortium Investigators (2017). A Novel Framework to Determine Decision Thresholds for Medical Diagnosis. *INFORMS Annual Meeting* (Invited Session), Houston, TX
9. **G.-G. P. Garcia**, M. S. Lavieri, and S. P. Broglio (2016). An Optimization Approach to Concussion Management. *INFORMS Annual Meeting* (Invited Session), Nashville, TN

Poster Presentations

1. L. L. Czerniak, S. W. Liebel, **G.-G. P. Garcia**, M. S. Lavieri, M. A. McCrea, T. W. McAllister, and S. P. Broglio (2020). Sensitivity and Specificity of Computer-Based Neurocognitive Assessments in Sport-Related Concussion. *Traumatic Brain Injury Conference*, Washington D.C.
2. L. L. Czerniak, S. W. Liebel, **G.-G. P. Garcia**, M. S. Lavieri, M. A. McCrea, T. W. McAllister, and S. P. Broglio (2020). Characterizing the Accuracy of Computer-Based Neurocognitive Tests in Sport-Related Concussion. *INFORMS Annual Meeting Minority Issues Forum Poster Competition*, National Harbor, MD
3. **G.-G. P. Garcia**, J. Yang, M. S. Lavieri, T. W. McAllister, M. A. McCrea, and S. P. Broglio (2019). Optimization of the SAC, BESS, and SCAT Symptom Checklist for Acute Concussion Assessment. *Traumatic Brain Injury Conference*, Washington D.C.
4. **G.-G. P. Garcia**, M. S. Lavieri, C. M. Schumb, T. W. McAllister, M. A. McCrea, and S. P. Broglio (2018). Developing Insights For Hard-to-Diagnose Concussions Using Machine Learning. *INFORMS Annual Meeting Minority Issues Forum Poster Competition*, Phoenix, AZ
5. **G.-G. P. Garcia**, M. S. Lavieri, R. Jiang, M. McCrea, T. W. McAllister, S. P. Broglio, and CARE Consortium Investigators (2018). A Stochastic Programming Approach to Determine Decision Boundaries for Medical Diagnosis. *YinzOR Conference 3rd Place*, Carnegie Mellon University, Pittsburgh, PA
6. M. S. Lavieri, X. Liu, **G.-G. P. Garcia**, Z. Zhou, E. Lobaza, J. Wang, K. Sugiyama, K. Nitta, C. Andrews, M. P. Van Oyen, and J. D. Stein (2017). Using Kalman Filtering to Personalize the Monitoring of Persons with Normal Tension Glaucoma. *The Association for Research in Vision and Ophthalmology*, Baltimore, MD
7. **G.-G. P. Garcia**, M. S. Lavieri, R. Jiang, M. McCrea, T. W. McAllister, S. P. Broglio, and CARE Consortium Investigators (2017). A Stochastic Programming Approach to Determine Decision Boundaries for Medical Diagnosis. *Center for Healthcare Engineering and Patient Safety Symposium*, University of Michigan, Ann Arbor, MI
8. **G.-G. P. Garcia**, M. S. Lavieri, R. Jiang, M. McCrea, T. W. McAllister, S. P. Broglio, and CARE Consortium Investigators (2017). A Stochastic Programming Approach to Determine Decision Boundaries for Medical Diagnosis. *Engineering Graduate Symposium 2nd Place*(Session IOF-2), University of Michigan, Ann Arbor, MI
9. **G.-G. P. Garcia**, M. S. Lavieri, R. Jiang, M. McCrea, T. W. McAllister, S. P. Broglio, and CARE Consortium Investigators (2017). A Stochastic Programming Approach to Determine Decision Boundaries for Medical Diagnosis. *INFORMS Annual Meeting Minority Issues Forum Poster Competition 1st Place*, Houston, TX
10. **G.-G. P. Garcia**, M. S. Lavieri, and S. P. Broglio (2016). Optimal Return-to-Play From Concussion. *Center for Healthcare Engineering and Patient Safety Symposium*, University of Michigan, Ann Arbor, MI
11. **G.-G. P. Garcia**, M. S. Lavieri, and S. P. Broglio (2016). Optimal Return-to-Play From Concussion. *Engineering Graduate Symposium*, University of Michigan, Ann Arbor, MI

Other Presentations

1. **G.-G. P. Garcia** and S. P. Broglio (2020). Optimizing Acute Concussion Assessment. *Concussion Assessment, Research and Education Consortium Investigators Meeting*, Chicago, IL
2. **G.-G. P. Garcia**, M. S. Lavieri, R. Jiang, T. W. McAllister, M. A. McCrea, and S. P. Broglio (2019). A Data-driven Approach to Unlikely, Possible, Probable, and Definite Acute Concussion. *Concussion Assessment, Research and Education Consortium Investigators Meeting*, Chicago, IL
3. **G.-G. P. Garcia**, S. P. Broglio, and M. S. Lavieri (2017). Quantifying The Added Value of a Multidimensional Model for Assessing Acute Concussion. *Concussion Assessment, Research and Education Consortium Investigators Meeting*, Chicago, IL
4. **G.-G. P. Garcia** and B. A. Norman (2011). Maximizing Vaccine Coverage Through Wastage Reduction. *Pitt EXCEL Summer Research Internship*, University of Pittsburgh, Pittsburgh, PA

Awards and Honors

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|---|-------------|
| Society of Medical Decision Making Lee B. Lusted Prize <i>Quantitative Methods and Theoretical Developments</i> | 2020 |
| INFORMS Minority Issues Forum Paper Competition | 2020 |
| Richard F. and Eleanor A. Towner Prize for Distinguished Academic Achievement | 2020 |
| Cornell ORIE Young Researchers Workshop - Departmental Nomination | 2019 |
| Society of Medical Decision Making Lee B. Lusted Prize <i>Quantitative Methods and Theoretical Developments</i> | 2018 |
| INFORMS Bonder Scholarship for Applied OR in Health Services | 2018 |
| INFORMS Doctoral Colloquium - Departmental Nomination <i>INFORMS Minority Issues Forum Doctoral Colloquium Student Sponsorship</i> | 2018 |
| INFORMS Minority Issues Forum Poster Competition - First Place | 2017 |
| INFORMS Bonder Scholarship for Applied OR in Health Services - Finalist | 2017 |
| IOE Graduate Student Instructor of the Semester | Winter 2017 |
| National Science Foundation Graduate Research Fellowship | 2017-2020 |
| Ford Foundation Fellowship Predoctoral Competition - Honorable Mention | 2016, 2017 |
| IOE Bonder Scholar Fellowship - Honorable Mention | 2016 |
| Rackham Merit Fellowship | 2015-2020 |

Grants and Funding

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|---|-------------|
| Bonder Scholar Research Fund <i>Amount Awarded: \$5000</i> | 2020 |
| Rackham Travel Grant <i>Amount Awarded: \$488</i> | Summer 2020 |
| Cornell ORIE Young Researchers Workshop <i>Amount Awarded: \$500</i> | 2019 |
| California Alliance Research Exchange Travel Grant <i>Amount Awarded: \$1500</i> | 2019 |
| Building Future Faculty, North Carolina State University, Raleigh, NC <i>Amount Awarded: Cost of travel to workshop</i> | 2019 |
| Future Faculty Development Program, University of Pittsburgh, Pittsburgh, PA <i>Amount Awarded: Cost of travel to workshop</i> | 2018 |
| NextProf Nexus Travel Grant, University of California, Berkeley <i>Amount Awarded: Cost of travel to workshop</i> | 2018 |
| INFORMS Bonder Scholarship and Travel Support <i>Amount Awarded: \$6000</i> | 2018 |
| INFORMS Minority Issues Forum Travel Grant <i>Amount Awarded: \$500</i> | 2018 |
| National Science Foundation Graduate Research Fellowship <i>Amount Awarded: \$102,000</i> | 2017-2020 |
| INFORMS Minority Issues Forum Travel Grant <i>Amount Awarded: \$500</i> | 2017 |
| Rackham Travel Grant <i>Amount Awarded: \$1050</i> | Fall 2018 |
| INFORMS Student Leadership Conference <i>Amount Awarded: \$200</i> | 2017 |

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| Rackham Travel Grant | Fall 2017 |
| Amount Awarded: \$800 | |
| Rackham Travel Grant | Fall 2016 |
| Amount Awarded: \$800 | |
| Rackham Travel Grant | Winter 2016 |
| Amount Awarded: \$800 | |

Undergraduate Awards and Honors

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|---|------------------------|
| American Society of Engineering Education - National Intern Student of the Year | 2014 |
| University of Pittsburgh - Co-op Student of the Year | 2014 |
| University of Pittsburgh IIE Chapter - Outstanding Senior Award | 2014 |
| Eaton Multicultural Scholarship | 2014 |
| UPS Minority Scholarship | 2013 |
| Allias-Holzman Undergraduate Teaching Fellowship | Spring 2014, Fall 2014 |
| University of Pittsburgh Dean's List | Spring 2011-Fall 2014 |
| University of Pittsburgh's Honor's List | Fall 2010 |
| Saw Creek Men's Club Scholarship | 2010 |

Teaching Experience

University Teaching

I have teaching experience with the following courses at the University level:

- IOE316: Introduction to Markov Processes, University of Michigan
- IE1082: Probabilistic Methods of Operations Research, University of Pittsburgh
- IE1055: Facility Layout and Material Handling, University of Pittsburgh
- IE1070: Probability, Random Variables, and Distributions, University of Pittsburgh
- IE1052: Manufacturing Processes and Analysis, University of Pittsburgh

| Course | Position | Semester | Instructor Rating | College-wide Median | Response |
|---------|------------|-------------|-------------------|---------------------|----------|
| IOE316 | Instructor | Winter 2018 | 4.71 | 4.48 | 100/112 |
| IOE316 | GSI | Winter 2017 | 4.76 | 4.23** | 88/93 |
| IOE316 | GSI | Fall 2016 | 4.49 | 4.50** | 97/115 |
| IE1082* | UTA | Summer 2015 | NA | NA | NA |
| IE1055* | UTA | Spring 2015 | NA | NA | NA |
| IE1070 | Grader | Fall 2014 | NA | NA | NA |
| IE1052 | UTA | Spring 2014 | NA | NA | NA |

GSI: Graduate Student Instructor, UTA: Undergraduate Teaching Assistant

*denotes a course taught with a flipped lecture style

**University-wide median reported if college-wide median was unavailable

Other Teaching

In addition to teaching at the University level, I have had the opportunity to teach in other capacities.

| Course | Position | Grade Level | Institution | Dates |
|--------|-------------------|-------------|------------------------------|---------------------|
| Math | Course Instructor | 7th Grade | FAME Academy, Pittsburgh, PA | Jan 2015 - May 2015 |
| Math | Course Instructor | 8th Grade | FAME Academy, Pittsburgh, PA | Jan 2015 - May 2015 |

Professional Development

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| Cornell ORIE Young Researchers Workshop, Cornell University, Ithaca, NY | 2019 |
| California Alliance Research Exchange | 2019 |
| Faculty Host: Anil Aswani, IEOR, University of California Berkeley | |
| Building Future Faculty, North Carolina State University, Raleigh, NC | 2019 |
| INFORMS Doctoral Colloquium, Phoenix, AZ | 2018 |
| Future Faculty Development Program, University of Pittsburgh, Pittsburgh, PA | 2018 |
| NextProf Nexus, University of California Berkeley, Berkeley, CA | 2018 |
| INFORMS Student Leadership Conference, Baltimore, MD | 2017 |

Industry Experience

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| Eaton Corporation, Horseheads, NY Quality Engineer Intern | 5/2014-8/2014 |
| Universal Electronic Corporation, Canonsburg, PA Manufacturing Engineer Co-op | 5/2012-12/2013 |

Service Activities

Journal Refereeing

Operations Research, Industrial Engineering, and Management Science Journals

- Management Science
- INFORMS Journal on Computing

Clinical and Multidisciplinary Journals

- Journal of Athletic Training
- Neurosurgery
- BMJ Open Sport & Exercise Medicine
- BMC Medical Research Methodology
- The Clinical Neuropsychologist
- International Journal of Sports Medicine

Service to the Profession

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|---|------|
| Institute for Operations Research and the Management Sciences (INFORMS) | |
| Session Chair, <i>HAS Bonder Scholars Session</i> | 2020 |
| Session Chair, <i>Personalized and Data-driven Medical Decision-Making</i> , INFORMS Healthcare | 2019 |
| Session Chair, <i>Personalized Medical Decision-Making</i> , INFORMS Annual Meeting | 2017 |
| Institute of Industrial and Systems Engineers (IISE) | |
| Session Chair, <i>Diagnosis Modeling</i> , ISERC Annual Conference | 2016 |

Service to the University

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| INFORMS Student Chapter, University of Michigan | |
| President* | 2018 |
| Vice President and Treasurer** | 2017 |
| Outreach Chair*** | 2016 |
| Society of Hispanic Professional Engineers, University of Pittsburgh | |
| External Vice President | 2013-2014 |
| Scholarship Chair | 2012-2013 |
| Pitt EXCEL, BROTHERHOOD, and INVESTING NOW, University of Pittsburgh | |
| Alumni Council | 2020-Present |
| BROTHERHOOD Leader, 1 st Foundation Member | 2013 |
| Peer Mentor | 2011-2012 |
| Freshman Engineering Leadership Team | 2011-2013 |

*Received INFORMS Student Chapter Award at *Cum Laude* level

**Received INFORMS Student Chapter Award at *Magna Cum Laude* level

***Received INFORMS Student Chapter Award at *Summa Cum Laude* level

Service to the Community

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| FAME Academy, Pittsburgh, PA MathCounts Coach | 2014-2015 |
| Legacy Stem Project, Pittsburgh, PA | |

Activity Facilitator

2014-2015

Professional References

Mariel S. Lavieri, PhD

Associate Professor

Department of Industrial and Operations Engineering, University of Michigan

E-mail: lavieri@umich.edu **Phone:** (734) 647-0872

Brian T. Denton, PhD

Professor and Chair

Department of Industrial and Operations Engineering, University of Michigan

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Ruiwei Jiang, PhD

Assistant Professor

Department of Industrial and Operations Engineering, University of Michigan

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Steven P. Broglio, PhD

Professor

Michigan Concussion Center and School of Kinesiology, University of Michigan

E-mail: broglio@umich.edu **Phone:** (734) 936-1925

Joshua D. Stein, MD

Associate Professor

Ophthalmology and Visual Sciences, University of Michigan

E-mail: jdstein@med.umich.edu **Phone:** (734) 763-9147

Programming Languages

LaTeX, MATLAB, Python, R, VBA, C++