

## 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 healthcare. I am especially interested in modeling the role of health equity and social dynamics in the decision-making problems which are ubiquitous in this field.

### Methodology

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

### Applications

Health policy, personalized medicine, medical decision-making, health equity, value-based design, concussion management, opioid use disorder, post-traumatic stress disorder, glaucoma, cardiovascular disease

## Publications

### Journal Articles

1. **G.-G. P. Garcia**, C. M. Schumb, M. S. Lavieri, H. Koffijberg, T. W. McAllister, M. A. McCrea, and S. P. Broglio (2021). Developing Insights for Possible and Probable Acute Concussions Using Cluster Analysis. *Journal of Neurotrauma* (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 (2021). Sensitivity and Specificity of Computer-Based Neurocognitive Tests in Sport-Related Concussion: Findings from the NCAA-DoD CARE Consortium. *Sports Medicine* **51**(2), 351–365.
3. S. W. Liebel, K. 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* **21**(23), 9097.
4. **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* **87**(5), 971–981.
5. **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
6. **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.
7. **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.
8. **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.
9. 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.
10. **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.
11. 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. C. DiGennaro, **G.-G. P. Garcia**, E. J. Stringfellow, S. Wakeman, and M. S. Jalali (2021). Changes in Characteristics of Opioid Overdose Death Trends during the COVID-19. *medRxiv* **02.01.2125**, 1–14. arXiv: [2021.02.01.21250781](https://arxiv.org/abs/2021.02.01.21250781) [ [10.1101](https://doi.org/10.1101) ]
3. **G.-G. P. Garcia**, R. Dehghanpoor, E. J. Stringfellow, M. Gupta, J. Rochelle, E. Mason, T. Pujol, and M. S. Jalali (2021). Identifying Advice-Seekers for Suboxone Use on Reddit via Social Network Characteristics and Suboxone Use Stage. *Addictive Behaviors* (Submitted)
4. J. B. Caccese, **G.-G. P. Garcia**, A. P. Kontos, N. Port, K. Valerio, S. P. Broglio, M. A. McCrea, T. W. McAllister, P. F. Pasquina, and T. A. Buckley (2021). Test-Retest Reliability and Efficacy of Individual Symptoms in Concussion Management. *Clinical Journal of Sports Medicine* (Submitted)

## 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

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### Invited Talks and Seminars

1. "Predictive and Prescriptive Analytics for Concussion Management Decisions"
  - 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"
  - Edward P. Fitts Department of Industrial & Systems Engineering Department, North Carolina State University, April 2019
3. "Data-driven Optimization for Concussion Management Decisions"
  - 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 (2021). Estimating the Value of Incorporating Patient Behavior in Return to Play from Concussion. *INFORMS Annual Meeting* (Bonder Scholars Session), Anaheim, CA

2. **G.-G. P. Garcia**, C. DiGennaro, E. J. Stringfellow, J. Wood, N. Poellinger, and M. S. Jalali (2021). A Multi-state Analysis of Opioid Overdose Death Trends Since the Onset of COVID-19. *INFORMS Healthcare* (Invited Session), Virtual Meeting
3. **G.-G. P. Garcia**, L. N. Steimle, and W. J. Marrero (2021). An Analysis of Structured Optimal Policies for Hypertension Treatment Planning. *INFORMS Healthcare* (Bonder Scholars Session), Virtual Meeting
4. **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
5. **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
6. **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
7. **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
8. **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
9. **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
10. **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
11. **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
12. **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

|   |             |
|---|-------------|
| Society of Medical Decision Making Lee B. Lusted Prize<br><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<br><i>Quantitative Methods and Theoretical Developments</i>                    | 2018        |
| INFORMS Bonder Scholarship for Applied OR in Health Services  | 2018        |
| INFORMS Doctoral Colloquium - Departmental Nomination<br><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

|   |             |
|---|-------------|
| Bonder Scholar Research Fund<br><i>Amount Awarded: \$5000</i>   | 2020        |
| Rackham Travel Grant<br><i>Amount Awarded: \$488</i>  | Summer 2020 |
| Cornell ORIE Young Researchers Workshop<br><i>Amount Awarded: \$500</i>   | 2019        |
| California Alliance Research Exchange Travel Grant<br><i>Amount Awarded: \$1500</i>   | 2019        |
| Building Future Faculty, North Carolina State University, Raleigh, NC<br><i>Amount Awarded: Cost of travel to workshop</i>        | 2019        |
| Future Faculty Development Program, University of Pittsburgh, Pittsburgh, PA<br><i>Amount Awarded: Cost of travel to workshop</i> | 2018        |

|   |             |
|---|-------------|
| NextProf Nexus Travel Grant, University of California, Berkeley | 2018        |
| Amount Awarded: Cost of travel to workshop                      |             |
| INFORMS Bonder Scholarship and Travel Support                   | 2018        |
| Amount Awarded: \$6000  |             |
| INFORMS Minority Issues Forum Travel Grant                      | 2018        |
| Amount Awarded: \$500   |             |
| National Science Foundation Graduate Research Fellowship        | 2017-2020   |
| Amount Awarded: \$102,000                                       |             |
| INFORMS Minority Issues Forum Travel Grant                      | 2017        |
| Amount Awarded: \$500   |             |
| Rackham Travel Grant  | Fall 2018   |
| Amount Awarded: \$1050  |             |
| INFORMS Student Leadership Conference                           | 2017        |
| Amount Awarded: \$200   |             |
| 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

|   |                        |
|---|------------------------|
| 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 |
| <i>Faculty Host:</i> 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

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### Journal Refereeing

#### Operations Research, Industrial Engineering, and Management Science Journals

- Management Science
- INFORMS Journal on Computing
- European Journal of Operational Research
- Healthcare Management Science

#### Selected Clinical and Multi-disciplinary Journals

- American Journal of Public Health
- JAMA Network Open
- Journal of Athletic Training
- Neurosurgery

## Service to the Profession

|   |      |
|---|------|
| National Science Foundation (NSF)   |      |
| Panelist, Grant Review Panel  | 2021 |
| Institute for Operations Research and the Management Sciences (INFORMS)                         |      |
| Session Chair, <i>Bonder Scholars Session</i> , INFORMS Healthcare                              | 2021 |
| Session Chair, <i>HAS Bonder Scholars Session</i> , INFORMS Annual Meeting                      | 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

|  |           |
|--|-----------|
| 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 <sup>st</sup> 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**

**FAME Academy, Pittsburgh, PA**

MathCounts Coach 2014-2015

**Legacy Stem Project, Pittsburgh, PA**

Activity Facilitator 2014-2015