

# Fabricio Murai

100 Institute Rd – Worcester, MA, 01609

✉ fmurai@wpi.edu • 🌐 <http://wpi.edu/~fmurai>

Graph ML • Online Social Networks • Fairness in AI

## 1. Education

---

**University of Massachusetts Amherst**

*Ph.D. in Computer Science*

**Advisor:** Don Towsley

**Dissertation:** “Applications of Sampling and Estimation on Networks”

**Amherst, MA**

*Feb 2014 – Aug 2016*

**University of Massachusetts Amherst**

*M.S. in Computer Science*

**Advisor:** Don Towsley

**Amherst, MA**

*Jul 2011 – Feb 2014*

**Universidade Federal do Rio de Janeiro**

*M.S. in Systems and Computer Engineering*

**Advisors:** Edmundo de Souza e Silva, Daniel Figueiredo

**Rio de Janeiro, Brazil**

*Mar 2008 – Apr 2011*

**Universidade Federal do Rio de Janeiro**

*B.S. in Computer Science*

Graduated *Magna Cum Laude* (Rank: 1/120)

**Rio de Janeiro, Brazil**

*Mar 2003 – Aug 2007*

## 2. Work Experience other than Teaching

---

**Politecnico di Torino**

*Visiting Professor, Host: Marco Mellia*

**Turin, Italy**

*Dec 2018 – Feb 2019*

**LinkedIn Inc.**

*SNA Intern, Research topic: Network A/B testing, Manager: Ya Xu*

**Sunnyvale, CA**

*Jun 2015 – Aug 2015*

**University of Massachusetts Amherst**

*Graduate Research Assistant*

**Amherst, MA**

*Jul 2011 – Aug 2016*

## 3. Teaching Experience

---

**Worcester Polytechnic Institute**

*Assistant Professor*

Computer Science Dept., Data Science Program

**Worcester, MA**

*Aug 2022 – Present*

**Universidade Federal de Minas Gerais**

*Associate Professor*

Department of Computer Science

**Belo Horizonte, Brazil**

*Jan 2020 – Aug 2022*

**Universidade Federal de Minas Gerais**

*Assistant Professor*

Department of Computer Science

**Belo Horizonte, Brazil**

*Jan 2017 – Jan 2020*

## 4. Teaching Innovations at WPI

- **C-term 2024. CS 4099: ST: Graph Machine Learning:** I prepared the course materials building on existing lectures on Graph ML and on Network Science; the challenge was to adapt materials typically taught at graduate levels for our undergraduate students.
- **Fall 2023. CS/DS 541: Deep Learning:** (i) reorganized course structure and revised slides to deliver core concepts earlier in the course; (ii) added more advanced concepts (e.g., relation between large flat regions in loss landscape and generalization, double descent phenomenon); (iii) included new content: advances in Graph Neural Networks and Diffusion Models; (iv) designed 10 weekly in-class quizzes from scratch to boost attendance; (v) defined detailed rubric for course project; (vi) designed questions to provide intuition on backpropagation given to students before the assignment where they implement it; (vii) designed new homework questions on multi-head attention; (viii) crafted new Exams from scratch (also in Spring 2024) accounting for learning outcomes and mindfully balancing the questions' difficulty.
- **Fall 2022. CS/DS 541: Deep Learning:** (i) expanded course materials on Graph Neural Networks; (ii) designed new homework on RNN sequence-to-sequence models for text data with attention and word embeddings.

## 5. Courses Taught at WPI

I have taught 8 class offerings at WPI across 4 unique courses. The table below shows average course ratings students gave on Question #1 (overall course rating), Question #2 (instructor rating), Question #7 (amount learned), and Question #9 (interest in helping) for each class session instructed on a five point scale (1 represents "Very Poor" and 5 represents "Excellent").

Year	Term	Course	Class Size	#Responses	Q1	Q2	Q7	Q9
2025	Spring	CS/DS 541: Deep Learning‡	42	8	4.3	4.4	4.3	4.8
2025	D	DS 3010: Computational Data Intelligence	34	17	3.5	3.5	3.1	4.5
2025	C	CS 4099: ST: Graph Machine Learning	27	17	4.2	4.1	4.2	4.7
2024	D	CS 4423: Database Systems II	80	47	4.1	4.0	4.0	4.4
2024	Spring	CS/DS 541: Deep Learning	47	26	4.2	4.0	4.2	4.7
2023	Fall	CS/DS 541: Deep Learning†	62	56	3.5	3.5	4.0	4.3
2023	D	CS 4423: Database Systems II	75	55	4.1	3.9	3.8	4.3
2022	Fall	CS/DS 541: Deep Learning	35	31	4.2	4.3	4.3	4.5

‡Due to the calendar, there was no opportunity to set aside class time for filling out student evaluations.

†Ratings were likely impacted by strict compliance with WPI's academic integrity policy leading to the filing of 8 departmental agreement forms before student evaluations.

## 6. Undergraduate Projects Advised and Co-Advised at WPI

---

### WPI Major Qualifying Projects.....

- MQP1. Collin Shields (CS), Aidan Bryar (DS), Jacquelian Ngo (AREN), Sage Fredrich (AREN). "Computer Vision-Based Approach on Investigating Street View Imagery for Urban-Scale Energy Simulation," E-project-050125-142004, April 2025. Co-advisor: Nancy Ma.
- MQP2. Kathleen Wang (DS), Vanessa Sam (DS), Nicholas Sirota (AREN), Zabelle Simmons (AREN), Kathy Tran (AREN+ME). "Applying Natural Language Processing Techniques to Social Media Data for Occupant Behavior Modeling Members," E-project-043025-191843, April 2025. Co-advisors: Nancy Ma, Nima Rahbar.
- MQP3. Luis Garcia Valecillos (CS+RBE), Maxwell Friedman (RBE), Tristin Youtz (RBE), Prahladh Raja (RBE). "Virtual Reality Telepresence Robotic System Members," E-project-050125-003012, April 2025. Primary Advisor: Andre Rosendo.
- MQP4. Alexander MacDonald (CS), Nur Fateemah (CS), Jakob Simmons (CS), Ethan Vaz Falcao (DS+Math). "Mining graph patterns in software development from code repositories," Worcester Polytechnic Institute E-project-040124-152208, April 2024. Co-advisor: Frank Zou.
- MQP5. Cristobal Rincon Rogers (CS+RBE), Liliana Loughlin (RBE), Matthew Sweeney (RBE), Yuhan Wu (CS+RBE). "Wheeled Robot with Robotic Arm for Collecting Trash on WPI Campus," Worcester Polytechnic Institute E-project-042524-123629, April 2024. Primary Advisor: Andre Rosendo.
- MQP6. Calvin Rambacher (DS). "Clinical Trial Prediction via Natural Language Processing and Graph Mining," Worcester Polytechnic Institute E-project-032223-171402, March 2023. Primary Advisor: Xiaozhong Liu.

### WPI Interactive Qualifying Projects.....

- IQP1. Qixing Xue (CS). "Improving Computing Efficiency and Reducing Carbon Footprint for Turing Cluster," Worcester Polytechnic Institute E-project-031924-094652, March 2024. Co-advisor: Ermal Toto.

### WPI REU Site Teams.....

- REU1. 06/2024 – 08/2024, NSF Data Science REU site (PI: Elke Rundensteiner).

Mentored team of 3 students leading to 2 presentations [W5.,W6.]

– Gavin Butts (LMU) → applied to graduate school

– Jethro Lee (Northeastern) → applied to graduate school

– Pegah Emdad (WPI; STAR recipient) → applying to summer schools

Ph.D. mentor: Shannon Song (DS)

2 students received NSF REU Travel Grant to present virtually at FAccTRec @ RecSsys 2024;

1 student received NSF REU Travel Grant to present at IEEE MIT URTC 2024.

- REU2. 06/2023 – 08/2023, NSF Data Science REU site (PI: Elke Rundensteiner).

Mentored team of 3 students leading to undergraduate publication [W7.]:  
 – Libby Tiderman (ASU) → applied to graduate school  
 – Juan Sanchez Mercedes (Bryant) → transferred to Boston University after REU  
 – Fiona Romanoschi (UT Austin) → decided to pursue second major in Math  
 Ph.D. mentor: Shannon Song (DS)

## 7. Graduate Theses and Dissertations Advised at WPI

---

### WPI PhD Students.....

- D1. 12/2022 – present, Shannon Song (DS; Primary Advisor). [C5., W5., W6., contributor: W7.]  
 D2. 01/2023 – present, Oluseun Olulana, (DS; Co-Advisor; Primary Advisor: Elke Rundensteiner). [C4.]  
 D3. 09/2023 – present, Yiqing Zhang, (DS; Primary Advisor). [C3.]

### WPI Master's Theses.....

- MT1. Jose Fabrizio Fillizola Ortiz (CS), "Improving LLMs Persuasiveness with Online Debates Data and Argumentation via Multi-Agent AI Systems," etd-134103, April 2025.  
 First employment: Software Engineer, Amazon.  
 MT2. Jeremy Lim (CS), "LLM Cheat Prevention via Adversarial Question Paraphrasing," etd-133955, April 2025.  
 MT3. Keon Roohani (CS), "Coordination in Multi-Agent LLM Systems: The Role of a Question-Asking Agent in Guiding Collaborative Consensus," etd-133648, April 2025.  
 First employment: TBD, TBD.  
 MT4. Sirhendu Ganguly (DS), "Leveraging Multi-task Learning Graph Neural Networks for Improving Fraud Detection," Worcester Polytechnic Institute etd-104921, April 2023.  
 First employment: Founding Data Scientist, Indicator Lab (Santa Clara, CA).  
 MT5. N'yoma Diamond (DS), "Evaluation of Repeated Colonel Blotto Games with Semi-Bandit Feedback," Worcester Polytechnic Institute etd-104701, April 2023.  
 First employment: MPhil in Advanced Computer Science, University of Cambridge.

### PhD Qualifiers, Comprehensive Exams and Preliminary Exams.....

- SC1. Ozge Aygul, PhD Qualifier Exam, WPI Data Science, completed May, 2025. Primary Advisor: Andrew Trapp.  
 SC2. Kevin Metzler, Preliminary Exam Committee Member, WPI Mathematical Sciences, completed May, 2025. Primary Advisor: Randy Paffenroth.  
 SC3. Shiquan He, PhD Qualifier Exam, WPI Data Science, completed December, 2024. Primary Advisor: Randy Paffenroth.

- SC4. Joshua DeOliveira, PhD Qualifier Exam Co-Advisor #2, WPI Data Science Program, completed October, 2024. Primary Advisor: Elke Rundensteiner.
- SC5. Mallak Alkhathlan, Comprehensive Exam Committee Member, WPI Computer Science, completed April, 2024. Primary Advisor: Elke Rundensteiner.
- SC6. Palawat Busaranuvong, PhD Qualifier Exam Co-Advisor #2, WPI Data Science Program, completed March, 2024. Primary Advisor: Emmanuel Agu.
- SC7. Himan Namdari, PhD Qualifier Exam Co-advisor #2 , WPI Data Science Program, completed December, 2023. Primary Advisor: Reza Zekavat.
- SC8. Isaac Zhao, PhD Qualifier Exam Co-advisor #1, WPI Data Science Program, completed December, 2023. Primary Advisors: Carolina Ruiz, Sergio Alvarez (Boston College).
- SC9. Oluseun Olulana, PhD Qualifier Exam Co-advisor #1, WPI Data Science Program, completed October, 2023. Primary Advisor: Elke Rundensteiner.
- SC10. Brian Lewandowski, Comprehensive Exam Committee Member, WPI Computer Science, completed January, 2023. Primary Advisor: Randy Paffenroth.

**PhD Dissertation Proposal Committees.....**

- SC9. Abdulsalam Almadani, “Deep Learning Models for HCM Assessment using Echocardiogram”, PhD Dissertation Proposal Committee Member, WPI Data Science Program, completed June, 2024. Primary Advisor: Emmanuel Agu.
- SC10. Mallak Alkhathlan, “Fairness in Focus: Evaluating People’s Perceptions of Digital Technology”, PhD Dissertation Proposal Committee Member, WPI Computer Science Dept., completed February, 2024. Primary Advisor: Elke Rundensteiner.
- SC11. Brian Lewandowski, “Using Autoencoder Feature Residuals to Improve Network Intrusion Detection,” , PhD Dissertation Proposal Committee Member, WPI Computer Science, completed May, 2023. Primary Advisor: Randy Paffenroth.
- SC12. Ahmad Ghasemi, “Resilient and Intelligent Resource Allocation in mmWave Wireless Communications,” PhD Dissertation Proposal Committee Member, WPI Data Science Program, completed November, 2022. Primary Advisor: Reza Zekavat.

**PhD Dissertation Defense Committees.....**

- SC13. Ahmad Ghasemi, “Resilient and Intelligent Resource Allocation in mmWave Wireless Communications,” PhD Dissertation Defense Committee member, WPI Data Science Program, completed June, 2023. Primary Advisor: Reza Zekavat.
- SC14. Brian Lewandowski, “Using Autoencoder Feature Residuals to Improve Network Intrusion Detection,” PhD Dissertation Defense Committee member, WPI Computer Science Dept., completed August, 2023. Primary Advisor: Randy Paffenroth.

### **Master Thesis Defense Committees.....**

- SC15. Eamon Worden, “Few-shot is All you Need, A Framework for RAG-Based LLM Feedback” WPI Computer Science Dept., completed May, 2025. Primary Advisor: Neil Heffernan.
- SC16. Xinyi Fang, “Enhancing Language Models for Classification on Text-Attributed Graphs through Multi-Model Data Augmentation” WPI Computer Science Dept., completed April, 2025. Primary Advisor: Kyumin Lee.
- SC17. Abigail Albuquerque, “Detecting Intoxication from Speech using Representations learned from Self-Supervised Pre-Training,” WPI Computer Science Dept., completed December, 2024. Primary Advisor: Emmanuel Agu.
- SC18. Kai Zhang, “Knowledge Triplets Derivation from Scientific Publications via Dual-Graph Resonance,” WPI Data Science Program, completed December, 2023. Primary Advisor: Xiazhong Liu.
- SC19. Grant Perkins, “Pressure Injury Stage Image Classification using Cross-Shaped Window Attention Vision Transformers,” WPI Computer Science Dept., completed December, 2023. Primary Advisor: Emmanuel Agu.
- SC20. Ryan Killea, “A Level-Set Approach for Solving Nonlinear Integer Optimization Problems,” WPI Data Science Program, completed July, 2023. Primary Advisor: Andrew Trapp.

## **8. Independent Studies conducted at WPI**

---

### **Graduate Directed Research & Independent Study Projects.....**

- IS1. Oluseun Olulana, DS 597 Directed Research (3 credits), Fall 2024.
- IS2. Mehrnoush Alizade, CS 598 Directed Research (3 credits), Fall 2024.
- IS3. Yiqing Zhang, DS 597 Directed Research (3 credits), Fall 2024.
- IS4. Shannon Song, DS 597 Directed Research (3 credits), Fall 2024.
- IS5. Mehrnoush Alizade, CS 598 Directed Research (3 credits), Spring 2024.
- IS6. Yiqing Zhang, DS 597 Directed Research (3 credits), Spring 2024.
- IS7. Shannon Song, DS 597 Directed Research (3 credits), Fall 2023.
- IS8. Yiqing Zhang, DS 597 Directed Research (3 credits), Fall 2023.
- IS9. Shannon Song, DS 597 Directed Research (3 credits), Spring 2023.
- IS10. Shrishailya Chavan, RBE 598 Directed Research (3 credits), Spring 2023. *with Prof. Nancy Ma.*
- IS11. Haiyang Yun, CS 595 Independent Study (3 credits), Spring 2023.

## Undergraduate Independent Study Projects.....

- IS1. (3 students) Weaver Goldman, Maddux Berry, Vanessa Sam. "CS4099: ST: Graph Machine Learning," (1/6 credit) C-term 2025.
- IS2. (9 students) Alisha Peeriz, Isabel Cruz Rivera, Jose Fabrizio Filizzola Ortiz, Karish Gupta, Max Gordon, Neena Xiang, Ronit Kapoor, Ruba Khan, Vagmi Bhagavathula, "CS4432: Database Systems II," (1/6 credit) D-term 2024.
- IS3. (3 students) Jeffrey Chan, Joseph Cardarelli, Ian Wright, "CS4432: Database Systems II," (1/6 credit) D-term 2023.

## 9. Academic Advising at WPI

---

- o Spring 2025: 58 advisees (50 undergraduate, 9 graduate).
- o Spring 2024: 55 advisees.
- o Spring 2023: 46 advisees.

## 10. Honors, Awards, and Other Recognition related to Teaching

---

- HT1. Nomination to Outstanding Academic Advisor of the Year, WPI, 2025.
- HT2. Nomination to Outstanding Academic Advisor of the Year, WPI, 2024.
- HT3. [Outstanding Faculty Award](#), WPI Data Science (voted by students), 2023.

## 11. Professional Development Related to Teaching

---

- o **Faculty On-Ramp to Teaching (FORT)**, Worcester Polytechnic Institute, 2022.
- o **An Introduction to Evidence-Based Undergraduate STEM Teaching**, Center for the Integration of Research, Teaching & Learning (CIRTL NETWORK), 2016.

## 12. Publications

---

**Citations:** 1528, h-Index: 15, i10-Index: 24; as of Mar, 12 2025 based on Google Scholar.

I have published in prestigious venues in Social Media/Web Mining research (ASONAM, WebSci). Recently, I have also started to publish in important venues in AI/Machine Learning (AAAI, SDM) and AI Fairness (AIES). Below I have labeled top-ranked venues according to Google Scholar in *Artificial Intelligence* (**top-ai**), *Data Mining & Analysis* (**top-dm**), and *AI Fairness* (**top-fairAI**).

In the following publication list, <sup>G</sup> denotes **graduate students** that are (co-)advised by me, <sup>U</sup> denotes **undergraduate mentees**, and underlined denotes WPI students.

## Peer-Reviewed Conference Proceedings.....

- C1. Yiqing Zhang<sup>G</sup>, Xiaozhong Liu, **Fabricio Murai**. "CLaDMoP: Learning Transferrable Models

- from Successful Clinical Trials via LLMs". *ACM Conference on Knowledge Discovery and Data Mining (KDD 2025)*. 8 pages, acceptance rate: 18.4%. **top-ai**
- C2. Borhane Blili-Hamelin, Christopher Graziul, Leif Hancox-Li, Hananel Hazan, El-Mahdi El-Mhamdi, Avijit Ghosh, Katherine A Heller, Jacob Metcalf, **Fabricio Murai**, Eryk Salvaggio, Andrew J Smart, Todd Snider, Mariame Tighanimine, Talia Ringer, Margaret Mitchell, Shiri Dori-Hacohen. "Stop treating 'AGI' as the north-star goal of AI research." *International Conference on Machine Learning Position Paper Track (ICML 2025)*. 8 pages, acceptance rate: 19.7%. **top-ai**
- C3. Yiqing Zhang<sup>G</sup>, Xiaozhong Liu, **Fabricio Murai**. "MEXA-CTP: Mode Experts Cross-Attention for Clinical Trial Outcome Prediction." *SIAM International Conference on Data Mining (SDM 2025)*. 9 pages, acceptance rate: 26.7%. **top-dm**
- C4. Olulana Oluseun<sup>G</sup>, Kathleen Cachel, **Fabricio Murai**, Elke Rundensteiner. "Hidden or Inferred: Fair Learning-To-Rank With Unknown Demographics." *AAAI/ACM Conference on Artificial Intelligence, Ethics and Society (AIES 2024)*. 12 pages, acceptance rate: 31.8%. **top-fairAI**
- C5. Chiman Salavati, Shannon Song<sup>G</sup>, Willmar Sosa Diaz, Scott A. Hale, Roberto E. Montenegro, **Fabricio Murai**, Shiri Dori-Hacohen. "Reducing Biases towards Minoritized Populations in Medical Curricular Content via Artificial Intelligence for Fairer Health Outcomes." *AAAI/ACM Conference on Artificial Intelligence, Ethics and Society (AIES 2024)*. 12 pages, acceptance rate: 31.8%. **top-fairAI**
- C6. Caio M. C. Viana, Carlos Henrique Gomes Ferreira, **Fabricio Murai**, Aldri Santos, Lourenço Alves Pereira, Jr. "Devil in the Noise: Detecting Advanced Persistent Threats with Backbone Extraction." *IEEE Symposium on Computers and Communications (ISCC 2024)*. 6 pages. **best paper award (#1 of 218)**
- C7. Samuel Guimarães, Gabriel Kakizaki, Philipe Melo, Márcio Silva, **Fabricio Murai**, Julio Reis, Fabricio Benevenuto. "Anatomy of Hate Speech Datasets: Composition Analysis and Cross-dataset Classification." *ACM Conference on Hypertext and Social Media (HT'23)*. 11 pages, acceptance rate: 28.0%.
- C8. Jackson de Faria<sup>G</sup>, Renato Assunção, **Fabricio Murai**. "Fisher Scoring Method for Neural Networks Optimization." *SIAM International Conference on Data Mining (SDM'23)*. 9 pages, acceptance rate: 27.4%. **top-dm**
- C9. Henrique S. Assumpção<sup>U</sup>, Fabrício Souza, Leandro L. Campos<sup>G</sup>, Vinícius T. C. Pires, Paulo M. L. de Almeida, **Fabricio Murai**. "DELATOR: Money Laundering Detection via Multi-Task Learning on Large Transaction Graphs." *IEEE International Conference on Big Data (BigData'22)*, short. 6 pages, full+short acceptance rate: 37.8%. **top-dm**
- C10. Renan S. Saldanha, José M. Rosa, Carlos H. G. Ferreira, Gabriel Nobre, **Fabricio Murai**, Jussara Almeida. "Uncovering Coordinated Communities on Twitter During the 2020 U.S. Election." *IEEE/ACM International Conference on Social Networks Analysis and Mining (ASONAM'22)*. 8 pages, acceptance rate: 19.6%. **top-dm**



- C11. José M. Rosa, Renan S. Saldanha, Carlos H. G. Ferreira, Gabriel Nobre, **Fabricio Murai**, Jussara Almeida. "Uncovering Discussion Groups on Claims of Election Fraud from Twitter." *International Conference on Social Informatics (SocInfo'22)*. 15 pages, acceptance rate: 20.2%.
- C12. Daniel Mello<sup>G</sup>, Renato Assunção, and **Fabricio Murai**. "Top-Down Deep Clustering with Multi-generator GANs." *AAAI Conference on Artificial Intelligence (AAAI'22)*. 11 pages, acceptance rate: 15%. **top-ai**
- C13. Rafael Sales Medina<sup>G</sup>, Ana Paula Couto da Silva, **Fabricio Murai**, "Risk Perception and Misinformation in Brazilian Twitter during COVID-19 Infodemic." *IEEE International Conference on Social Computing and Networking (SocialCom'22)*. 8 pages.
- C14. Karen B. Enes<sup>G</sup>, Matheus Nunes, **Fabricio Murai**, Gisele L. Pappa. "Evolving node embeddings for dynamic exploration of network topologies." *Ibero-American Conference on Artificial Intelligence (IBERAMIA'22)*. 8 pages.
- C15. Bruno Guilherme Gomes<sup>G</sup>, **Fabricio Murai**, Olga Goussevskaia, and Ana Paula da Silva. "Mixture Variational Autoencoder of Boltzmann Machines for Text Processing." *Natural Language Processing and Information Systems (NLDB'21)*. 11 pages, acceptance rate: 23%.
- C16. Bruno Guilherme Gomes<sup>G</sup>, **Fabricio Murai**, Olga Goussevskaia, and Ana Paula da Silva. "Sequence-Based Word Embeddings for Effective Text Classification." *Natural Language Processing and Information Systems (NLDB'21)*. 11 pages, acceptance rate: 23%.
- C17. Carlos Henrique Gomes Ferreira<sup>G</sup>, **Fabricio Murai**, Ana Paula da Silva, Jussara Marques de Almeida, Martino Trevisan, Luca Vassio, Idilio Drago, and Marco Mellia. "Unveiling Community Dynamics on Instagram Political Network." *ACM Conference on Web Science (WebSci'20)*. 10 pages, acceptance rate: 26%.
- C18. Lucas Lima, Julio C S Reis, Philipe Melo, **Fabricio Murai**, and Fabrício Benevenuto. "Characterizing (Un)moderated Textual Data in Social Systems." *IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM'20)*, short. 5 pages, full+short acceptance rate: 37%. **top-dm**
- C19. Julio C S Reis, André Correia, **Fabricio Murai**, Adriano Veloso, and Fabrício Benevenuto. "Explainable machine learning for fake news detection." *ACM Conference on Web Science (WebSci'19)*. 10 pages, acceptance rate: 32%.
- C20. Martino Trevisan, Luca Vassio, Idilio Drago, Marco Mellia, **Fabricio Murai**, Flavio Figueiredo, Ana Paula da Silva, and Jussara M Almeida. "Towards Understanding Political Interactions on Instagram." *ACM Conference on Hypertext and Social Media (HT'19)*, short. 5 pages, acceptance rate: 29%.
- C21. Marco Lattuada, Eugenio Gianniti, Marjan Hosseini, Danilo Ardagna, Alexandre Maros, **Fabricio Murai**, Ana Couto da Silva, and Jussara Almeida. Gray-Box Models for Performance Assessment of Spark Applications. *International Conference on Cloud Computing and Services Science (CLOSER'19)*. 10 pages.

- C22. Alexandre Maros, **Fabricio Murai**, Ana Paula da Silva, Jussara M. Almeida, Marco Lattuada, Eugenio Gianniti, Marjan Hosseini, and Danilo Ardagna. "Machine Learning for Performance Prediction of Spark Cloud Applications." *IEEE International Conference on Cloud Computing (CLOUD'19)*. 8 pages, acceptance rate: 20.8%.
- C23. Bárbara Silveira Fraga<sup>G</sup>, Ana Paula da Silva, and **Fabricio Murai**. "Online Social Networks in Health Care: A Study of Mental Disorders on Reddit." *IEEE/WIC/ACM International Conference on Web Intelligence (WI'18), short*. 6 pages.
- C24. Francisco Galuppo Azevedo<sup>U</sup>, Bruno Demattos Nogueira<sup>U</sup>, **Fabricio Murai**, and Ana Paula C. Silva. "Estimation Errors in Network A/B Testing Due to Sample Variance and Model Misspecification." *IEEE/WIC/ACM International Conference on Web Intelligence (WI'18), short*. 6 pages.
- C25. Karen Braga Enes<sup>G</sup>, Pedro Paulo Valadares Brum, Tiago Oliveira Cunha, **Fabricio Murai**, Ana Paula da Silva, and Gisele Lobo Pappa. "Reddit Weight Loss Communities: Do They Have What It Takes for Effective Health Interventions?" *IEEE/WIC/ACM International Conference on Web Intelligence (WI'18), short*. 6 pages.
- C26. Lucas Lima, Julio C S Reis, Philipe Melo, **Fabricio Murai**, Leandro Araujo, Pantelis Vikatos, and Fabricio Benevenuto. "Inside the Right-Leaning Echo Chambers: Characterizing Gab, an Unmoderated Social System." *IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM'18)*. 8 pages, acceptance rate: 15%. **top-dm**
- C27. Bruno Ribeiro, Pinghui Wang, **Fabricio Murai**, and Don Towsley. "Sampling directed graphs with random walks." *IEEE International Conference on Computer Communications (INFOCOM'12)*. 9 pages, acceptance rate: 18%.

#### Peer Reviewed Journals.....

- J1. Karen B. Enes, Matheus Nunes, **Fabricio Murai**, Gisele L. Pappa. Temporally-aware node embeddings for evolving networks topologies. *AI Communications*, 2024.
- J2. Nan Ma, Qi Zhang, **Fabricio Murai**, William W. Braham, Holly W. Samuelson. Learning building occupants' indoor environmental quality complaints and dissatisfaction from text-mining Booking.com reviews in the United States. *Building and Environment*, 2023. **IF: 7.4**.
- J3. Carlos H. G. Ferreira, **Fabricio Murai**, Ana P. C. Silva, Martino Trevisan, Luca Vassio, Idilio Drago, Marco Mellia, and Jussara M. Almeida. On Network Backbone Extraction for Modeling Online Collective Behavior. *PLOS ONE*, 2022. **IF: 3.24**.
- J4. Eduarda T. C. Chagas, Pedro H. Barros, Isadora Cardoso-Pereira, Igor V. Ponte, Pablo Ximenes, Flávio Figueiredo, **Fabricio Murai**, Ana Paula Couto da Silva, Jussara M. Almeida, Antonio A. F. Loureiro, and Heitor S. Ramos. "Effects of Population Mobility on the COVID-19 Spread in Brazil." *PLOS ONE*, 2021. **IF: 3.24**.
- J5. Bárbara Silveira<sup>G</sup>, Henrique S Silva<sup>U</sup>, **Fabricio Murai**, and Ana Paula C da Silva. "Predicting user emotional tone in mental disorder online communities." *Future Generation Computer Systems*, 2021. **top-cs, IF: 7.187**.

- J6. Carlos H G Ferreira<sup>G</sup>, **Fabricio Murai**, Ana P C Silva, Jussara M Almeida, Martino Trevisan, Luca Vassio, Marco Mellia, and Idilio Drago. "On the dynamics of political discussions on Instagram: A network perspective." *Online Social Networks and Media*, 2021. **IF: 4.419, top-dm.**
- J7. Francisco Galuppo Azevedo<sup>U</sup> and **Fabricio Murai**. "Evaluating the state-of-the-art in mapping research spaces: A Brazilian case study." *PLOS ONE*, 2021. **IF: 3.24.**
- J8. Carlos Henrique Gomes Ferreira<sup>G</sup>, **Fabricio Murai**, Breno de Sousa Matos<sup>U</sup>, and Jussara M Almeida. "Modeling Dynamic Ideological Behavior in Political Networks." *The Journal of Web Science*, 2019. **IF: Unknown.**
- J9. **Fabricio Murai**, Bruno Ribeiro, Don Towlsey, and Pinghui Wang. "Characterizing Directed and Undirected Networks via Multidimensional Walks with Jumps." *ACM Trans. Knowl. Discov. Data*, 2019. **top-dm, IF: 2.713.**
- J10. Julio C S Reis, André Correia, **Fabricio Murai**, Adriano Veloso, and Fabrício Benevenuto. "Supervised Learning for Fake News Detection." *IEEE Intelligent Systems*, 2019. **306 citations, IF: 6.744.**
- J11. **Fabricio Murai**, Diogo Rennó<sup>G</sup>, Bruno Ribeiro, Gisele L Pappa, Don Towsley, and Krista Gile. "Selective harvesting over networks." *Data Mining and Knowledge Discovery*, 2018. **top-dm, IF: 5.406.**
- J12. **Fabricio Murai**, Bruno Ribeiro, Don Towsley, and Pinghui Wang. "On Set Size Distribution Estimation and the Characterization of Large Networks via Sampling." *IEEE Journal on Selected Areas in Communications*, 2013. **IF: 13.081.**
- J13. **Fabricio Murai**, Antonio A de A. Rocha, Daniel R Figueiredo, and Edmundo A de Souza e Silva. "Heterogeneous download times in a homogeneous BitTorrent swarm." *Computer Networks*, 2012. **IF: 6.708.**

#### Peer-Reviewed Workshops.....

- W1. Kai Zhang, Rui Zhu, Shutian Ma, **Fabricio Murai**, Jingwei Xiong, Yejin Kim and Xiaozhong Liu. "KEDRec-LM: A Knowledge-distilled Explainable Drug Recommendation Large Language Model". *Workshop on New Interaction Paradigms for Information Retrieval in the Era of Generative AI (NIP@IR)*, 2025.
- W2. Pedro H. Barros<sup>G</sup>, **Fabricio Murai**, Amir Houmansadr, Antonio Alfredo Ferreira Loureiro, Alejandro C. Frery, Heitor S. Ramos. "Quantifying uncertainty in federated learning for DDoS attack mitigation in malicious user scenarios" (in Portuguese). *Brazilian Symposium on Computer Networks and Distributed Systems (SBRC)*, 2025 (archival).
- W3. Fatemeh Farajzadeh, Shannon Song<sup>G</sup>, Luke Caddell, Sarah Stalick, **Fabricio Murai**, Andrew Trapp. "Proactive Staging of Resources for Migratory Crises". *Annual POMS Conference*, 2025.
- W4. Pedro H. Barros<sup>G</sup>, **Fabricio Murai**, Amir Houmansadr, Alejandro C. Frery, Heitor S. Ramos. "Variational Inference in Similarity Spaces: A Bayesian Approach to Personalized Federated Learning." *Bayesian Decision-making and Uncertainty Workshop at NeurIPS 2024* (poster).

- W5. Gavin Butts<sup>U</sup>, Pegah Emdad<sup>U</sup>, Jethro Lee<sup>U</sup>, Shannon Song<sup>G</sup>, Chiman Salavati, Willmar Sosa Diaz, **Fabricio Murai**, and Shiri Dori-Hacohen. "Towards Fairer Health Recommendations: finding informative unbiased samples via Word Sense Disambiguation." *FAccTRec Workshop on Responsible Recommendation at RecSys*, 2024. 6 pages, long presentation acceptance rate: 33%.
- W6. Gavin Butts<sup>U</sup>, Pegah Emdad<sup>U</sup>, Jethro Lee<sup>U</sup>, Shannon Song<sup>G</sup>, Chiman Salavati, Willmar Sosa Diaz, Roberto Montenegro, Scott Hale, Shiri Dori-Hacohen, and **Fabricio Murai**. "Diagnosing Bias: Predictive AI Models for Identifying Biased Health Information in Medical Curriculum." *IEEE MIT Undergraduate Research and Technology Conference (URTC)*, 2024 (poster).
- W7. Libby Tiderman<sup>U</sup>, Juan Sanchez Mercedes<sup>U</sup>, Fiona Romanoschi<sup>U</sup>, **Fabricio Murai**, "Towards Detecting Cascades of Biased Medical Claims on Twitter." *IEEE MIT Undergraduate Research Technology Conference (URTC 2023)*. 5 pages. (Shannon Song<sup>G</sup> would have been listed as co-author if allowed by the conference.)
- W8. Pedro Henrique Barros<sup>G</sup>, Heitor Ramos, **Fabricio Murai**. "Bayes and Laplace versus the world: A new label attack approach in federated environments based on Bayesian Neural Networks." *Brazilian Conference on Intelligent Systems (BRACIS'23)*. 15 pages, acceptance rate: 36.8%.
- W9. Julio C. S. Reis, Philipe Melo, Fabiano Belém, **Fabricio Murai**, Jussara M. Almeida, Fabricio Benevenuto, "Helping Fact-Checkers Identify Fake News Stories Shared through Images on WhatsApp." *Brazilian Symposium on Multimedia and the Web (WebMedia'23)*. 14 pages.
- W10. Shiri Dori-Hacohen, Roberto Montenegro, **Fabricio Murai**, Scott Hale, Keen Sung, Michela Blaine and Jennifer Edwards-Johnson. "Fairness via AI: Bias Reduction in Medical Information." *FAccTRec Workshop on Responsible Recommendation at RecSys*, 2021. 4 pages, *arxiv:2109.02202*.
- W11. Davi Pedrosa de Aguiar<sup>G</sup> and **Fabricio Murai**. "Encoding physical conditioning from inertial sensors for multi-step heart rate regression." *ACM Conference on Health, Inference, and Learning (CHIL) Workshop*, 2021 (poster). *arXiv:2103.12095*.
- W12. Davi Pedrosa de Aguiar<sup>G</sup> and **Fabricio Murai**. "Encoding Physical Conditioning from Inertial Sensors for Multi-step Heart Rate Estimation." *Brazilian Conference on Intelligent Systems (BRACIS'21)*. 15 pages, acceptance rate: 40%.
- W13. Levy de Souza Silva, **Fabricio Murai**, Ana Paula Couto da Silva, and Mirella M Moro. "Automatic Identification of Best Attributes for Indexing in Data Deduplication." *Alberto Mendelzon International Workshop on Foundations of Data Management (AMW'18)*. 10 pages.
- W14. **Fabricio Murai**, Bruno Ribeiro, Donald Towsley, and Krista Gile. "Targeted Network Recruitment on a Budget." *NetSci*, 2014 (poster).
- W15. **Fabricio Murai**, Bruno Ribeiro, Donald Towsley, and Krista Gile. "Characterizing Branching Processes from Sampled Data." *Annual Workshop on Simplifying Complex Networks for Practitioners (SIMPLEX@WWW'13)*. 7 pages.
- W16. **Fabricio Murai**, and Daniel Ratton Figueiredo. "Assortative Mixing in BitTorrent-Like Networks." *IEEE INFOCOM Student Workshop@INFOCOM'09* (poster). 2 pages.

## 13. Fellowship and Grants

---

### Pending.....

- PG1. **Co-PI**, “Next-Gen Proactive Optimization of Border Resources under Human Flow Uncertainty”. Amazon Think Big. PI: Andrew Trapp.  
Amount: \$99,994 (plus \$10,500 AWS Promotional Credits) over 1 year (submitted May 2025)

### Awarded at Worcester Polytechnic Institute.....

- G1. **Senior Personal**, “REU: Applied AI for Advanced Applications”. NSF.  
Amount: \$462,210 over 3 years (02/2024 – 01/2027, [funded](#))
- G2. **Senior Personal**, “Quantifying Uncertainty in Adversarial Federated Learning”. FAPESP (São Paulo Research Foundation), Brazil.  
PI: Heitor Ramos (UFMG).  
Amount: approx. \$45,156\* over 2 years. (08/2023 – 07/2025, [funded](#))  
Senior Personnel: Alejandro Cesar Frery Orgambide (WGTN), Amir Houmansadr (UMass Amherst), Antonio Alfredo Ferreira Loureiro (UFMG), Leandro Aparecido Villas (UNICAMP).  
\* R\$ 219,910 (currency exchange 4.87, as of 01/11/2023)
- G3. **Collaborator**, “FAI: BRIMI - Bias Reduction in Medical Information”. NSF Division of Information and Intelligent Systems. Award number 2147305  
Amount: \$629,000 over 3 years (Mar 2022 – Feb 2025, [funded](#))  
Percentage of funding responsible: non-applicable.  
UConn: Shiri Dori-Hacohen (PI), Sherry Pagoto (Co-PI)  
Meedan: Scott Hale (Co-PI)

### Not Selected for Funding.....

- N1. **Co-PI**, “HCC: Small: What Health Messaging Works for Whom? Developing New LLM-Based Tools for Public Health Practitioners”. NSF.  
PI: Jacob Whitehill; Co-PIs: Angela Rodriguez, Xiaozhong Liu.  
Amount: \$600,000.
- N2. **Co-PI**, “Proactive Planning for Migration Crises via Advanced Analytics”. NSF. (pending)  
PI: Andrew Trapp; Co-PI: Sarah Stanlick.  
Senior Personnel: Luke Caddell. Amount: \$841,866.
- N3. **Principal Investigator (at WPI)**, “Enhancing Quality and Equity of EHR CVD Risk Information in Primary Care Settings of Underserved Populations via AI/ML.” NIH. Amount: \$628,482 (total over all partners: \$3,756,337).
- N4. **Principal Investigator (at WPI)**, “Racial-ethnic disparities in the diet-obesity relationship: moderation by food insecurity and environmental social determinants of health”. NIH (AIM-AHEAD).  
Amount: \$244,338 over 2 years (submitted Jun 2023, non-funded)

N5. **Principal Investigator**, “Robust Node Representations for Partially Observed Graphs”. Google Research Academic Awards.  
Amount: approx. \$60,000 over 1 year (submitted Dec 2022, non-funded)

**Awarded**.....

- BG1. **Awardee**, “5th Disabled in Computing Meetup at SIAM SDM”.  
AccessComputing mini-grant 2025-03.  
Amount: \$1,758, May 2025.
- BG2. **Awardee**, “4th Disabled in Computing Meetup at AAAI/ACM AIES”.  
AccessComputing mini-grant.  
Amount: \$2,727, October 2024.
- BG3. **Awardee**, “Disabled in Computing Birds-of-a-Feather Session”.  
AccessComputing mini-grant.  
Amount: \$1,655, September 2024.
- BG4. **Co-PI**, “Science Support Program: WildPixels: Dense Labeling of Remote Sensing Images in the Wild”. Serrapilheira Institute. Competitive, 12 awarded/505.  
Amount: \$98,050 over 3 years (Aug 2021 – Jul 2024)  
Percentage of funding responsible: non-fixed.  
*UFMG (Brazil)*: Jefersson dos Santos (PI), Heitor Ramos (Co-PI)
- BG5. **Coordinator** (until Aug 2022), “(Training) Artificial Intelligence Applied to Geosciences Course”. PETROBRAS. State-owned industry.  
Amount: \$211,052 over 3 years (Jan 2021 – Dec 2023; one 10-week course/year)  
Percentage of funding responsible: 66.7%.
- BG6. **Coordinator** (until Aug 2022), “(Training) Technological Residency in Data Science”. Usiminas. Private.  
Amount: \$83,795 (Sep 2021 – Dec 2022)  
Percentage of funding responsible: 75.0%.
- BG7. **Principal Investigator**, “Artificial Intelligence for Automatic Detection of Evidences of Money Laundering and Terrorist Financing”. Inter Bank (InterMINDS Research Lab), private.  
Amount: \$23,925 (Aug 2021 – Feb 2022)  
Percentage of funding responsible: 100.0%.
- BG8. **Collaborator**, “Machine Learning System for Predictive Maintenance.”. Minasligas (R&D, federal support via EMBRAPPII).  
Amount: \$91,515 (Oct 2020 – Jun 2021)  
Percentage of funding responsible: not applicable.
- BG9. **Collaborator**, “ATMOSPHERE - Adaptive, Trustworthy, Manageable, Orchestrated, Secure, Privacy-assuring, Hybrid Ecosystem for REsilient Cloud Computing.” European Union (Cooperation Programme, H-2020). EU-Brazil, competitive.

Amount: €1,102,849 over two years (Nov 2017 – Oct 2019)  
Percentage of funding responsible: not applicable.

- BG10. **Collaborator**, “Artificial Intelligence for Spotting Fake Profiles and Anomalous Users’ Behaviors on the Web.” Compagnia di San Paolo. Internationalization, Competitive.  
Amount: €47,386 over one year (Jul 2018 – Jun 2019)  
Percentage of funding responsible: not applicable.  
UFMG (Brazil): Ana Paula C. da Silva (PI)  
Politecnico di Torino (Italy): Marco Mellia (PI)

## 14. Professional Presentations

---

- PP1. “Devil in the Noise: Detecting Advanced Persistent Threats with Backbone Extraction”, 2024. Disabled in Computing Virtual Speaker Series.
- PP2. “Fostering a Disability-Inclusive Research Culture with Dynamic Mutual Micro-Accommodations (DyMMAs)”, 2024. CMD-IT/ACM Richard Tapia Conference (Lightning Talk).
- PP3. “Devil in the Noise: Detecting Advanced Persistent Threats with Backbone Extraction”, 2024. Department of Computer Science, UFMG, Brazil. Host: Heitor Ramos.
- PP4. “Fisher Scoring Method for Neural Networks Optimization ”, 2023. Department of Computer Science, Purdue University, West Lafayette, IN. Host: Bruno Ribeiro.
- PP5. “Fisher Scoring Method for Neural Networks Optimization ”, 2023. SIAM International Conference on Data Mining (SDM’23), Minneapolis, MN.
- PP6. “Harnessing the Power of Digital Platforms: a Networked Data Perspective”, 2022. Worcester Polytechnic Institute. Host: Craig Wills.
- PP7. “Harnessing the Power of Digital Platforms: a Networked Data Perspective”, 2022. Wesleyan University. Host: Norman Danner.
- PP8. “Harnessing the Power of Digital Platforms: a Networked Data Perspective”, 2022. Florida International University. Host: Jason Liu.
- PP9. Online Seminars, Institute of Computing, UFF, Brazil: “How to use graphs to analyze political communities on Instagram and science in Brazil?”, 2021.
- PP10. Computing Summer School, Belo Horizonte, Brazil: “Who hid my graph? Inference from partially observed networks”, 2020.
- PP11. Statistics Seminar, Dept. of Statistics, UFMG, Brazil, “Reasoning from Partially Observed Networks: Sampling, Estimation and Models”, 2019.
- PP12. SmartData Research Group Seminar, Politecnico di Torino, Italy, “Reasoning from Partially Observed Networks: Sampling, Estimation and Models”, 2018.
- PP13. Computing Summer School, Belo Horizonte, Brazil, “Network Science: mathematics and algorithms”, 2018.

PP14. REU Lunch Series, UMass Amherst, “Data Science for Networks”, 2016.

## 15. Patents

---

I do not have any current patents to report.

## 16. Consultantships

---

I do not have any current consultant relationships to report.

## 17. Scholarship in Progress

---

- U1. Yiqing Zhang<sup>G</sup>, Xiaozhong Liu, **Fabricio Murai**. “CLaDMoP: Learning Transferrable Models from Successful Clinical Trials via LLMs,” submitted to the main track of the ACM SIGKDD International Conference on Data Mining and Knowledge Discovery (KDD), 2025.

## 18. Professional Societies Memberships

---

PS1. Association for Computing Machinery, Member.

PS2. Society for Industrial and Applied Mathematics, Member.

PS3. Disabled in Computing, Member.

PS4. AccessComputing, Partner.

## 19. Editorial and Referee Activities

---

### RA1. Program Committee Chair

- (a) CSBC Workshop on Computer and Communication Systems Performance (WPerformance, Brazil’s premier event on Perf. Evaluation): 2022.

### RA2. Program Committee

- (a) AAAI Conference on Artificial Intelligence (AAAI): 2024, 2025  
(b) AAAI Conference on Web and Social Media (ICWSM): 2022  
(c) ACM Knowledge Discovery and Data Mining Conference (KDD): 2019, 2020, 2021, 2023  
(d) European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD): 2021, 2022  
(e) The Web Conference (WWW): 2021, 2022, 2023, 2025  
(f) IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technology (WI-IAT): 2018, 2020  
(g) IEEE International Conference on Computer Communications (INFOCOM): 2019, 2020<sup>1</sup>, 2021<sup>1,2</sup>. <sup>1</sup> *Distinguished TPC Member in 2020 (20.5%) and 2021 (20.8%);* <sup>2</sup> *Session Chair.*  
(h) CSBC Workshop on Computer and Communication Systems Performance: (WPerformance) 2017-2020



### RA3. Reviewer

- (a) ACM Knowledge Discovery and Data Mining Conference (KDD): 2024, 2025 (August Cycle)<sup>1</sup>, 2025 (February Cycle)  
<sup>1</sup> Outstanding Reviewer in 2025 (10%)
- (b) International Conference on Learning Representations (ICLR): 2024
- (c) Conference on Neural Information Processing Systems (NeurIPS): 2023
- (d) ACM Transactions on Knowledge Discovery from Data (TKDD): 2020, 2021, 2025
- (e) Artificial Intelligence: 2025
- (f) PLOS ONE: 2024, 2025
- (g) IEEE Transactions on Network Science and Engineering (TNSE): 2024
- (h) IEEE Transactions on Neural Networks and Learning Systems (TNNLS): 2022
- (i) IEEE Transactions on Knowledge and Data Engineering (TKDE): 2021
- (j) IEEE Access: 2020, 2021
- (k) ACM Transactions on Modeling and Performance Evaluation of Computing Systems (TOMPECS): 2018, 2019
- (l) Computer Networks: 2020
- (m) Data & Knowledge Engineering (DKE): 2021
- (n) Information Processing & Management (IP&M): 2020, 2021, 2022, 2023
- (o) Information Systems: 2017
- (p) Journal of Information and Data Management (JIDM): 2023
- (q) Brazilian Journal of Probability and Statistics (BJPS): 2021
- (r) Journal of Network and Systems Management (JoNS): 2017

## 20. Honors, Awards and Recognition related to Scholarship

---

### Honors and Awards.....

- HS1. Outstanding Reviewer (top 10%), KDD 2025 (August Cycle).  
*This recognition is awarded based upon review ratings by Area Chairs, completion rate, punctuality, review length and discussion participation.*
- HS2. Best Paper Award. IEEE Symposium on Computers and Communications (ISCC), 2024.
- HS3. Distinguished TPC Member for 2 years in a row: 2020 (20.5%), 2021 (20.8%),  
IEEE International Conference on Computer Communications (INFOCOM).  
*This distinction is awarded based upon ratings by peer TPC members, fairness in review scores, and promptness in meeting various deadlines during the review process.*
- HS4. Full Ph.D. Fellowship (*awarded*, single one awarded to CS in Brazil/2011), Brazilian National Research Council (CNPq), 2011-2015

- HS5. Full Ph.D. Fellowship (*declined*, rank: 1st in STEM fields in Brazil/2011), Brazilian Graduate Council of the Ministry of Education (CAPES)
- HS6. M.S. Scholarship “Grade A Student” (2 awarded/year in the graduate program), Rio de Janeiro State Research Support Funding Agency, Brazil, 2009-2010
- HS7. M.S. Scholarship, Brazilian National Research Council (CNPq), 2008-2009
- HS8. Distinguished Ph.D. Candidate (2 awarded/year), CICS UMass Amherst, 2014
- HS9. Outstanding Synthesis\* Award, (2 awarded/year), CICS UMass Amherst, 2014. Amount: \$300. Sponsored by Yahoo! \**The Synthesis is a significant research project that combines two different research fields; can be used as M.S. Dissertation.*
- HS10. Graduated with honors (*magna cum laude*), 2007

### **Press Coverage and Impact**.....

- PC1. Bloomberg Columnist Parmy Olson mentioned my recent paper [C2.] that argues against treating ‘AGI’ as the north-star goal of AI research.
- PC2. The MIT Technology Review’s The Algorithm Newsletter mentioned my recent paper [C2.] that argues against treating ‘AGI’ as the north-star goal of AI research.

## **21. Service to Profession**

---

### **Conference Organizing Committee**.....

- SP1. **General Co-Chair**, CSBC Workshop on Computer and Communication Systems Performance (WPerformance, Brazil’s premier event on Perf. Evaluation): 2022.
- SP2. **Co-Chair**, Computing Summer School, organized by UFMG, targeted at regional undergraduate students: 2019-2020.

## **22. Service to the University and the Department**

---

### **Service to Worcester Polytechnic Institute**.....

- SU1. **Reviewer**, WPI Summer Training in Arts & Sciences Research (STAR) program, 2024.
- SU2. **Judge**, Graduate Research Innovation Exchange (GRIE) (1st & 2nd rounds): 2023.
- SU3. **Judge**, WPI IQP Presidential Awards, 2022.

### **Service to WPI Computer Science Department and Data Science Program**.....

- SD1. **Chair**, CS DEI Committee: 2023-2024.
- SD2. **Member**, CS DEI Committee: 2022-2023, 2024-2025.
- SD3. **Member**, DS DEI Committee: 2022-2023, 2023-2024, 2024-2025.
- SD4. **Advisor**, DS Graduate Council: 2024-2025.

SD5. **Member**, Faculty Search Committee, AI Program: 2023-2024.

SD6. **Diversity Advocate**, Faculty Search Committee, AI Program: 2023-2024.

SD7. **Representative**, Arts and Sciences Inclusion Program, Computer Science: 2023-2024.

SD8. **Member**, Data Science Faculty Activity Model Committee: 2023.

## 23. Service to Students at WPI

---

SS1. Brazilian Student Association (BRASA) Club Co-Advisor, 2022-2023, 2023-2024

SS2. Data Science Club Advisor, 2022-2023, 2023-2024

## 24. Service to the Community

---

### Public Talks.....

SC1. Invited speaker at the Marlborough Public Library, "A Journey into AI and its Impact on Us", April, 2024.

SC2. Invited speaker at the Shrewsbury Public Library Distinguished Speaker Series in AI, "A Journey into AI and its Impact on Us", January, 2024.

### Disabled in Computing Meet-ups and Virtual Speaker Series.....

DC1. **Organizer**, Disabled in Computing Meet-up at SIAM SDM 2025, Alexandria, VA, May, 2025 (*upcoming*). Sponsored by mini-grant from AccessComputing (Approved Amount: \$2,531).

DC2. **Co-Organizer**, Disabled in Computing Virtual Speaker Series, Nov-Dec 2024 (4 talks). Sponsored by mini-grant from AccessComputing (Amount: \$2,000).

DC3. **Organizer**, Disabled in Computing Meet-up at AAAI AIES 2024, San Jose, CA, October, 2024. Sponsored by mini-grant from AccessComputing (Amount: \$2,727).

DC4. **Co-Organizer**, Disabled in Computing Birds-of-a-Feather session at CMD-IT/ACM Richard Tapia Conference 2024, San Diego, CA, September, 2024. Sponsored by mini-grant from AccessComputing (Amount: \$1,654).

DC5. **Co-Organizer**, Disabled in Computing Meet-up at ACM FAccT 2024, Rio, Brazil, June, 2024.

### Graduate Committees outside WPI.....

#### EC1. PhD Dissertation Committees

(a) External Member, Ronald Chiesse de Souza (Systems & Comp. Eng., UFRJ, Daniel Figueiredo), 2023.

(b) External Member, Edemir F. de Andrade Jr. (Computer Science, UFMG, Jefersson dos Santos), 2023.

(c) External Member, João Ismael Pinheiro (Informatics, UFRJ, Daniel Menasche), 2021.

(d) Julio Cesar Soares dos Reis (CS, Fabricio Benevenuto), 2020.

## EC2. PhD Proposal Committees

- (a) External Member, Ronald Chiesse de Souza (Systems & Comp. Eng., UFRJ, Daniel Figueiredo), 2021.
- (b) Julio Cesar Soares dos Reis (CS, Fabricio Benevenuto), 2019.
- (c) Rodrigo de Magalhães Silva (CS, Marcos Gonçalves), 2019.
- (d) Edemir Ferreira de Andrade Junior (CS, Jefersson Alex dos Santos), 2019.

## EC3. Thesis-based MS Students

- (a) Amanda Rodrigues Fagundes (UFMG, Nov 2020 – Feb 2025). Thesis: *Behavioral Analysis and Bot Detection in E-Commerce Navigation Data*.
- (b) Henrique R. Hott (UFMG, Jul 2024 – Dec 2024). Thesis: *Classification and Topic Modeling for Procurement Documents via NLP and Deep Learning*.
- (c) Gustavo Germano (UFMG, Mar 2020 – Aug 2023). Thesis: *Hypergraph Representation Learning for Link Prediction from Instagram Multi-Commenter Interactions*.
- (d) Jackson de Faria (Murai was co-advisor with Assunção, Aug 2019 – Jul 2023). Thesis: *Fisher Scoring Method for Neural Networks Optimization*. First employment: PhD student at Simon Fraser University.
- (e) Leandro Campos (Co-advisor Valle, Mar 2019 – Jul 2022). Thesis: *A Generative Approach for Multi-Step Prediction*. First employment: AI Researcher at InterMINDS (Inter Bank).
- (f) Bruno Gomes (Murai was co-advisor with da Silva and Goussevskiaia, Mar 2018 – Nov 2021). Thesis: *Efficient Natural Language Processing: Two Frameworks for Text Classification and Analysis*. First employment: ML Research Engineer at Rocketmat.
- (g) Ronald Pereira (UFMG, Aug 2019 – Oct 2021). Senior Data Scientist at iFood. Thesis: *Automatic Detection of Frauds in Financial Transactions Networks using Graph Learning*. First employment: Data Science Specialist at iFood (food delivery app).
- (h) Daniel Mello (Murai was Co-advisor with R. Assunção, Aug 2018 – May 2021). Applying to PhDs. Thesis: *Generative Adversarial Networks for Hierarchical Clustering*. First employment: PhD student at Purdue.
- (i) Davi Pedrosa de Aguiar (UFMG, Mar 2019 – Apr 2021). Thesis: *Predicting Heart Rate During Physical Activities Using Artificial Neural Networks*. First employment: Software Engineer at Treinus (fitness watch app).
- (j) Bárbara Silveira (Murai was Co-advisor with A. P. C. da Silva, Mar 2017 – Nov 2019). Thesis: *Characterizing and Predicting User Emotional Tone in Mental Health Disorder Online Communities*. First employment: Tech Lead at A3Data, Lecturer for MBA courses at PUC-Minas.
- (k) Rafael Sales Medina Ferreira (Co-advisor: A. P. C. da Silva, Mar 2017 – May 2019). Thesis: *Impact of Online Social Communities in Language Learning*. First employment: Microsoft.

## EC4. MS Thesis Committees

- (a) External Member, Larissa Gomes Malagoli (CS, UFMG, Advisors: A. P. C. da Silva, Carlos Henrique Gomes Ferreira), 2025.
- (b) External Member, Rainara Araújo Mateus (CS, UFMG, Advisors: A. P. C. da Silva, Carlos Henrique Gomes Ferreira), 2025.
- (c) External Member, Rafael Gonçalves Damasceno (CS, UFRJ, Daniel Figueiredo), 2024.
- (d) Osmany Barros de Freitas (CS, ITA, Lourenço Alves Pereira), 2024.
- (e) Renan Cordeiro Lima (CS, Rodrygo Santos), 2023.
- (f) External Member, Caio Lorenzetti Martinelli (CS, USP, Denis Deratani Mauá), 2023.
- (g) External Member, Caio Truzzi Lente (CS, USP, Roberto Hirata Jr.), 2023.
- (h) Marcos Felipe Vendramini Carvalho (CS, Jefersson Alex dos Santos), 2021.
- (i) Matheus Henrique do Nascimento Nunes (CS, Gisele Pappa), 2021.
- (j) Gabriel Peres Nobre (CS, Jussara Almeida), 2021.
- (k) Pedro Dalla Vecchia (CS, Rodrygo Santos), 2021.
- (l) Filipe Barreto do Nascimento (CS, Rodrygo Santos), 2021.
- (m) External Member, Lucas Lopes Felipe (Informatics, UFRJ, Daniel Menasche), 2021.
- (n) Wesley Henrique Silva Pereira (Statistics, Denise Duarte), 2020.
- (o) Mariana Alves Amorim (Statistics, Denise Duarte), 2020.
- (p) Alexandre Maros (CS, Jussara Almeida), 2019.
- (q) Túlio Braga Moreira Pinto (CS, Jussara Almeida), 2019.
- (r) Tulio Lima Criscuolo (CS, Wagner Meira Jr. and Renato Assunção), 2019.
- (s) Caio Cesar Viana da Silva (CS, Jefersson dos Santos), 2019.
- (t) Lucas Henrique Costa de Lima (CS, Fabricio Benevenuto), 2019.
- (u) Gabriel Lage Calegari (CS, Ana Paula da Silva), 2019.
- (v) Tiago Pimentel Martins da Silva (CS, Adriano Veloso), 2018.
- (w) Luis Fernando Miranda (CS, Gisele Pappa), 2018.
- (x) Johnnatan Messias Peixoto Afonso (CS, Fabricio Benevenuto), 2017.

#### **EC5. MS Proposal Committees**

- (a) External Member, Caio Lorenzetti Martinelli (CS, USP, Denis Deratani Mauá), 2022.
- (b) External Member, Caio Lente (CS, USP, Roberto Hirata Jr.), 2021.
- (c) Wesley Henrique Silva Pereira (Statistics, Denise Duarte), 2019.
- (d) Mariana Alves Amorim (Statistics, Denise Duarte), 2019.

#### **EC6. Other Committees**

- (a) Patrick Santos Silva (Specialization in Data Science, Carlos Henrique Gomes Ferreira), 2024.