

Jorge A. Méndez

Curriculum Vitae

University of Pennsylvania
Department of Computer and Information Science
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RESEARCH INTERESTS

My primary research interest is the creation of versatile artificially intelligent systems that learn to accumulate knowledge over their lifetimes. I focus on the question of how agents can decompose the complex knowledge required to model a lifelong data stream into simpler units that can be adapted and reused in the future. My work applies these methods to computer vision, robotics, and natural language.

EDUCATION

- May 2022 **Ph.D. in computer and informatuon science**, *University of Pennsylvania*
Thesis: “Lifelong machine learning of functionally compositional structures.”
Advisor: Eric Eaton. Committee: Dan Roth (chair), Kostas Daniilidis, Pratik Chaudhari, and George Konidakis (Brown University).
- Aug. 2018 **M.S.E. in robotics**, *University of Pennsylvania*
- Apr. 2016 **B.S. *summa cum laude* in electronics engineering (*Ingeniero electrónico*)**, *Universidad Simón Bolívar*, Venezuela
Thesis: “Implementation of algorithms and debugging for STMicroelectronics wearable platform” (*Desarrollo de algoritmos y depuración de la plataforma ponible de STMicroelectronics*).
[Awarded “**Exceptionally Good**” distinction]
Advisors: Daniele Caltabiano (STMicroelectronics), Giacomo Boracchi (Politecnico di Milano), Novel Certad (Universidad Simón Bolívar).
- 2014–2015 **Exchange graduate student in computer science**, *Politecnico di Milano*, Italy

RESEARCH APPOINTMENTS

University of Pennsylvania

- May 2022–Present *Postdoctoral Researcher* with Eric Eaton
2016–2022 *Research Assistant* with Eric Eaton

Facebook AI Research

- Jun. 2021–Sep. 2021 *Research Intern* with Arthur Szlam and Ludovic Denoyer

Microsoft Research, Montréal

- Jun. 2020–Sep. 2020 *Research Intern* with Harm van Seijen

Facebook AI Applied Research

- May 2019–Aug. 2019 *Research Intern* with Alborz Geramifard and Mohammad Ghavamzadeh

HONORS AND AWARDS

- 2022 MIT School of Engineering Postdoctoral Fellowship for Engineering Excellence
- 2021 3rd place award of the Two Sigma Diversity PhD Fellowship (**\$5,000**)
- 2020 **Best paper** award at the 4th Lifelong Learning Workshop at ICML for “Lifelong learning of factored policies via policy gradients”
- 2021, 2022 **Outstanding reviewer** or equivalent at ICLR, ICML, and NeurIPS

- 2016 Exceptionally Good Thesis award at Universidad Simón Bolívar for “Implementation of algorithms and debugging for STMicronics wearable platform”
- 2015, 2016 Top 30 GPAs at Universidad Simón Bolívar among students in the final two years
- 2011 Top 10 GPAs at Universidad Simón Bolívar (3 / 750) among first-year students
- 2010 Top 50 entrance placement exams at Universidad Simón Bolívar (25 / 7409)

PUBLICATIONS

Preprints

- [P11] B. Wang, **J. A. Méndez**, C. Shui, F. Zhou, D. Wu, C. Gagné, and E. Eaton. Gap minimization for knowledge sharing and transfer. *arXiv:2201.11231*, 2022.

Conference Papers

- [C10] **J. A. Méndez**^{*}, M. Hussing^{*}, M. Gummadi, and E. Eaton. CompoSuite: A compositional reinforcement learning benchmark. In *First Conference on Lifelong Learning Agents (CoLLAs-22)*, 2022.
- [C9] **J. A. Méndez**, H. van Seijen, and E. Eaton. Modular lifelong reinforcement learning via neural composition. In *10th International Conference on Learning Representations (ICLR-22)*, 2022. [acceptance rate: 32%]
- [C8] M. Gummadi, D. Kent, **J. A. Méndez**, and E. Eaton. SHELS: Exclusive feature sets for novelty detection and continual learning without class boundaries. In *First Conference on Lifelong Learning Agents (CoLLAs-22)*, 2022.
- [C7] **J. A. Méndez** and E. Eaton. Lifelong learning of compositional structures. In *9th International Conference on Learning Representations (ICLR-21)*, 2021. [acceptance rate: 29%; invited talk at ContinualAI October Online Meetup]
- [C6] **J. A. Méndez**, B. Wang, and E. Eaton. Lifelong policy gradient learning of factored policies for faster training without forgetting. In *Advances in Neural Information Processing Systems 33 (NeurIPS-20)*, 2020. [acceptance rate: 20%]
- [C5] B. Wang, **J. A. Méndez**, M. Cai, and E. Eaton. Transfer learning via minimizing the performance gap between domains. In *Advances in Neural Information Processing Systems 32 (NeurIPS)*, 2019. [acceptance rate: 21%]
- [C4] **J. A. Méndez**, S. Shivkumar, and E. Eaton. Lifelong inverse reinforcement learning. In *Advances in Neural Information Processing Systems 31 (NeurIPS-18)*, 2018. [acceptance rate: 21%]

Workshop Papers

- [W3] **J. A. Méndez** and E. Eaton. Lifelong learning of factored policies via policy gradients. In *4th Lifelong Learning Workshop at the International Conference on Machine Learning (LML-ICML-20)*, 2020. [best paper award; contributed talk—oral acceptance rate: 10%]
- [W2] **J. A. Méndez** and E. Eaton. A general framework for continual learning of compositional structures. In *Continual Learning Wokrshop at the International Conference on Machine Learning (CL-ICML-20)*, 2020.
- [W1] **J. A. Méndez**, A. Geramifard, M. Ghavamzadeh, and B. Liu. Reinforcement learning of multi-domain dialog policies via action embeddings. In *3rd Conversational AI Workshop at Neural Information Processing Systems (ConvAI-NeurIPS)*, 2019. [contributed talk—oral acceptance rate: 16%]

TEACHING

University of Pennsylvania

- Fall-19, Spring-20 *Instructor* for CIS 192 Python Programming
Fall-17 *Head Teaching Assistant* for CIS 419/519 Introduction to Machine Learning

Universidad Simón Bolívar

- Fall-13,14, *Teaching Assistant* for CI 2125 Programming I
Winter-13,14,16,
Spring-13,14
Spring-12 *Teaching Assistant* for EC 2272 Electric Circuit Analysis II
Winter-12 *Teaching Assistant* for MA 1112 Calculus II
Fall-11 *Teaching Assistant* for MA 1111 Calculus I

RESEARCH MENTORING

Ph.D. Students

- 2019–2022 Meghna Gummadi, Penn CIS: novelty detection and compensation
2021–2022 Marcel Husing, Penn CIS: compositional reinforcement learning

Master's Students

- 2016–2018 Shashank Shivkumar, Penn ROBO: lifelong learning from demonstration (Master's thesis, NeurIPS paper). Next: Advanced AI Engineer, Honeywell
2017–2018 Varun Gupta, Penn ROBO: lifelong reinforcement learning. Next: Perception Engineer, Rivian
2019 Srinath Rajagopalan, Penn CIS: lifelong reinforcement learning. Next: Software Engineer, Amazon Robotics
2020–2021 Wenxuan Zhang, Penn AMCS: lifelong non-stationary learning (Master's thesis)

Undergraduate Students

- 2017 Monica Vyavahare, Penn CIS: lifelong learning from demonstration. Next: Software Engineer, Amazon Robotics
2021 Spencer Solit, Penn CIS: compositional reinforcement learning

PROFESSIONAL SERVICE

Conference Paper Reviewing

- 2021[†], 2022[†] ICLR, International Conference on Learning Representations
2021[†] ICML, International Conference on Machine Learning
2020, 2021[†] NeurIPS, Conference on Neural Information Processing Systems
2020, 2021 ICRA / RA-L, International Conference on Robotics and Automation
[†]Outstanding reviewer

Conference Paper Co-reviewing

- 2019 AAAI, Conference on Artificial Intelligence
2017–2019 IJCAI, International Joint Conference on Artificial Intelligence
2018 ICML, International Conference on Machine Learning

2018 NeurIPS, Neural Information Processing Systems

Workshop Proposal Reviewing

2021 AAIL, Conference on Artificial Intelligence

OTHER APPOINTMENTS

Capital One

2017 *Data Science Intern*, Credit Card Data Science Division

STMicroelectronics

2015 *Research & Development Intern*, Advanced Systems Technology Group