

# Aldo Gael Carranza

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## Education

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**Stanford University**, Stanford, CA Sept. 2017 — June 2023

Doctor of Philosophy in Computational & Mathematical Engineering

- Research Interests: reinforcement learning, natural language processing, federated learning, networks, causal inference

**The University of Texas at Austin**, Austin, TX Aug. 2013 — May 2017

Bachelor of Science in Mathematics with High Honors

- Minors/Certificates: Computer Science, Computational Science & Engineering
- Distinctions: University High Honors, Mathematics Departmental Honors

## Experience

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**Google**, Mountain View, CA June 2022 — March 2023

Research Intern & Student Researcher

- Conducted research projects exploring novel use of large language models (LLMs) and differentially private (DP) training mechanisms for developing privacy-preserving recommender systems in ads recommendation applications.

**LinkedIn**, Sunnyvale, CA June 2021 — Sept. 2021

Applied Research Data Science Intern

- Developed a semi-supervised LLM-based incident ticket auto-tagging system that achieved significant performance gains on average and worst-case group classification for top root cause sources and covered majority of infrastructure incidents.

**Adobe**, San Jose, CA June 2018 — Sept. 2018

Data Science Research Intern

- Developed a fast, scalable, higher-order spectral clustering algorithm with provable near-optimality guarantees for heterogeneous networks that outperforms state-of-the-art algorithms over common baseline methods for clustering, link prediction, and network compression tasks.

## Publications & Preprints

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- **Aldo G. Carranza**, Reza Farahani, Natalia Ponomareva, Alex Kurakin, Matthew Jagielski, Milad Nasr. “Privacy-Preserving Recommender Systems with Synthetic Query Generation using Differentially Private Language Models”. 2023. arXiv preprint [arXiv:2305.12407](https://arxiv.org/abs/2305.12407). [Link](#). *In Review*.
- **Aldo G. Carranza**, Susan Athey, “Federated Offline Policy Learning with Heterogeneous Observational Data”. 2023. arXiv preprint [arXiv:2305.12407](https://arxiv.org/abs/2305.12407). [Link](#). *In Review*.
- **Aldo G. Carranza**, Sanath Krishnamurthy, Susan Athey, “Flexible and Efficient Contextual Bandits with Heterogeneous Treatment Effect Oracles”. Proceedings of The 26th International Conference on Artificial Intelligence and Statistics, PMLR 206:7190-7212, 2023, (*AISTATS '23*). [Link](#).
- **Aldo G. Carranza**, Marcel Goic, Eduardo Lara, Marcelo Olivares, Gabriel Y. Weintraub, Julio Covarrubia, Cristian Escobedo, Natalia Jara, Leonardo Basso, “The Social Divide of Lockdowns in Santiago During the Covid-19 Pandemic”. Management Science, 2021 (*Winner of 2022 INFORMS Franz Edelman Award Competition*). [Link](#).
- **Aldo G. Carranza**, Ryan A. Rossi, Anup Rao, and Eunye Koh. “Higher-order Clustering in Complex Heterogeneous Networks.” In Proceedings of the 26th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining, pp. 25-35. 2020, (*KDD '20*). [Link](#)
- Ryan A. Rossi, Nesreen K. Ahmed, **Aldo G. Carranza**, David Arbour, Anup Rao, Sungchul Kim, and Eunye Koh. “Heterogeneous Graphlets.” Transactions on Knowledge Discovery from Data (TKDD), pp. 43. 2020. [Link](#)

## Patents

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- Ryan A. Rossi, Aldo G. Carranza, Anup Rao, Eunye Koh, *Higher-order Network Clustering and Embedding*, Adobe Research, Patent granted 11/2/2021. US Patent No. 11,163,803.
- Ryan A. Rossi, Aldo G. Carranza, David Arbour, Anup Rao, Sungchul Kim, Eunye Koh, *System for Identifying Typed Graphlets*, Adobe Research, Patent granted 11/9/2021, US Patent No. 11,170,048.

## Skills and Interests

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- **Programming Languages:** Python (Numpy, Scipy, TensorFlow, JAX, PyTorch), C++
- **Natural Languages:** English (native), Spanish (native), French (intermediate), Korean (beginner)