

ALFONSO AMAYUELAS

PhD Student at UC Santa Barbara

EDUCATION

UNIVERSITY	University of California, Santa Barbara	Santa Barbara, USA
DEGREE	PhD Computer Science	
ADVISOR	William Yang Wang	
PERIOD	September 2022 — ongoing	
UNIVERSITY	Stanford University	Stanford, USA
DEGREE	Visiting PhD Student	
ADVISOR	Alex "Sandy" Pentland	
PERIOD	April 2026 — ongoing	
UNIVERSITY	King Abdullah University of Science and Technology (KAUST)	Thuwal, Saudi Arabia
DEGREE	Visiting PhD Student	
ADVISOR	Jürgen Schmidhuber	
PERIOD	October 2025 — December 2025	
UNIVERSITY	École Polytechnique Fédérale de Lausanne	Lausanne, Switzerland
DEGREE	MSc Data Science	
PERIOD	September 2019 — August 2021	
UNIVERSITY	ETH Zurich	Zurich, Switzerland
DEGREE	Visiting Master's student (Thesis): <i>Neural Methods for Logical Reasoning over Knowledge Graphs</i> [1]	
PERIOD	February 2021 — August 2021	
UNIVERSITY	Autonomous University of Barcelona	Barcelona, Spain
DEGREE	BSc in Computer Science BSc in Telecommunication Systems Engineering	
PERIOD	September 2014 — June 2019	
UNIVERSITY	University of California, San Diego	San Diego, USA
DEGREE	Computer Science / Electrical Engineering (Exchange program)	
PERIOD	September 2017 — June 2018	

WORK EXPERIENCE

EMPLOYER	Morgan Stanley	New York, USA
JOB TITLE	AI Research Scientist Intern	
PERIOD	June 2025 — September 2025	
	Internship with the Morgan Stanley ML/AI Research Team working on reinforcement learning with LLMs.	
EMPLOYER	JP Morgan Chase	New York, USA
JOB TITLE	AI Research Scientist Intern	
PERIOD	June 2024 — September 2024	
	Internship with the JP Morgan Chase AI Research team, where I worked on grounding Large Language Models with Knowledge Graphs for complex multi-hop question-answering: <i>Grounding LLM Reasoning with Knowledge Graphs</i> [2]	

EMPLOYER	Megagon Labs	Mountain View, USA
JOB TITLE	Research Scientist Intern	
PERIOD	June 2023 — September 2023	
	Worked with the Knowledge Team on a project for Knowledge Graph Distillation. We used academic knowledge graph datasets, PyTorch and PyTorch Geometric as the building block of our solution.	
EMPLOYER	BigML	Remote, Spain
JOB TITLE	Machine Learning Engineer	
PERIOD	June 2021 — August 2022	
	Worked in the Predictive Applications Team creating ML applications for clients on top of the comprehensive BigML's proprietary platform. Also contributed to the early development of BigML's spinoff Accushoot.com.	
EMPLOYER	Oracle	Zurich, Switzerland
JOB TITLE	Research Assistant	
PERIOD	July 2020 — August 2020	
	Worked at Oracle Labs in Zurich with the PGX Applications Team. The project consisted in developing an application for automatic knowledge graph extraction, implementing a NLP pipeline with open-source libraries.	
EMPLOYER	Indra	Barcelona, Spain
JOB TITLE	Intern	
PERIOD	January 2019 — June 2019	
	Worked on the Bachelor's thesis for Telecommunications Engineering with the Navigation team of Indra Space. The project involved the development of a study for a communication channel and satellite transponder simulator for the ground stations (NLES) in the third generation of EGNOS (v3).	
EMPLOYER	Aalto Univeristy	Helsinki, Finland
JOB TITLE	Research intern	
PERIOD	June 2018 — September 2018	
	Worked in the Applied Physics department for the Complex Systems and Materials group (CSM), under the supervision of Prof. Mikko Alava. The goal of the project was the use machine learning techniques for the detection and forecasting of structural changes in the texture of foams.	
EMPLOYER	CERN	Geneva, Switzerland
JOB TITLE	Intern	
PERIOD	June 2017 — September 2017	
	Collaborated with the ATLAS experiment in a team from the National Technical University of Athens under the supervision of Prof. Theodoros Alexopoulos. The project involved the firmware development of FPGAs	

TEACHING EXPERIENCE

EMPLOYER	University of California, Santa Barbara	Santa Barbara, USA
JOB TITLE	Teacher Assistant	
PERIOD	March 2024 — June 2024	
	CS 130A: Data Structures and Algorithms, by Prof. Ambuj K Singh. Main course on data structures and algorithms, covering abstraction and analysis. Some of the topics during this course are: Algorithm analysis, Hashing, Sets with priority, Trees, Union/Find, Graphs, and Sorting	

- [1] A. Amayuelas, S. Zhang, X. S. Rao, and C. Zhang, “Neural methods for logical reasoning over knowledge graphs,” in *International Conference on Learning Representations*, 2022.
- [2] A. Amayuelas, J. Sain, S. Kaur, and C. Smiley, “Grounding llm reasoning with knowledge graphs,” *arXiv preprint arXiv:2502.13247*, 2025.
- [3] N. Goel, A. Amayuelas, A. Deshpande, and A. Sharma, “The importance of modeling data missingness in algorithmic fairness: A causal perspective,” in *Proceedings of the AAAI Conference on Artificial Intelligence*, vol. 35, pp. 7564–7573, 2021.
- [4] A. Amayuelas, K. Wong, L. Pan, W. Chen, and W. Y. Wang, “Knowledge of knowledge: Exploring known-unknowns uncertainty with large language models,” in *Findings of the Association for Computational Linguistics: ACL 2024*, (Bangkok, Thailand), pp. 6416–6432, Association for Computational Linguistics, Aug. 2024.
- [5] X. Wang, A. Amayuelas, K. Zhang, L. Pan, W. Chen, and W. Y. Wang, “Understanding reasoning ability of language models from the perspective of reasoning paths aggregation,” in *Proceedings of the 41st International Conference on Machine Learning*, vol. 235 of *Proceedings of Machine Learning Research*, pp. 50026–50042, PMLR, 21–27 Jul 2024.
- [6] K. Wong, A. Amayuelas, L. Pan, and W. Y. Wang, “Distilrr: Transferring code repair for low-resource programming languages,” *arXiv preprint arXiv:2406.14867*, 2024.
- [7] X. Wang, A. Antoniadou, Y. Elazar, A. Amayuelas, A. Albalak, K. Zhang, and W. Y. Wang, “Generalization v.s. memorization: Tracing language models’ capabilities back to pretraining data,” 2024.
- [8] A. Amayuelas, X. Yang, A. Antoniadou, W. Hua, L. Pan, and W. Y. Wang, “MultiAgent collaboration attack: Investigating adversarial attacks in large language model collaborations via debate,” in *Findings of the Association for Computational Linguistics: EMNLP 2024*, (Miami, Florida, USA), pp. 6929–6948, Association for Computational Linguistics, Nov. 2024.
- [9] L. Yoffe, A. Amayuelas, and W. Y. Wang, “Debunc: Mitigating hallucinations in large language model agent communication with uncertainty estimations,” *arXiv preprint arXiv:2407.06426*, 2024.
- [10] W. Hua, O. Liu, L. Li, A. Amayuelas, J. Chen, L. Jiang, M. Jin, L. Fan, F. Sun, W. Wang, *et al.*, “Game-theoretic llm: Agent workflow for negotiation games,” *arXiv preprint arXiv:2411.05990*, 2024.
- [11] A. Romanou, N. Foroutan, A. Sotnikova, Z. Chen, S. H. Nelaturu, S. Singh, R. Maheshwary, M. Altomare, M. A. Haggag, A. Amayuelas, *et al.*, “Include: Evaluating multilingual language understanding with regional knowledge,” *arXiv preprint arXiv:2411.19799*, 2024.
- [12] I. Salazar, M. F. Burda, S. B. Islam, A. S. Moakhar, S. Singh, F. Farestam, A. Romanou, D. Boiko, D. Khullar, M. Zhang, D. Krzemiński, J. Novikova, L. Shimabucoro, J. M. Imperial, R. Maheshwary, S. Duwal, A. Amayuelas, *et al.*, “Kaleidoscope: In-language exams for massively multilingual vision evaluation,” 2025.
- [13] A. Amayuelas, J. Yang, S. Agashe, A. Nagarajan, A. Antoniadou, X. E. Wang, and W. Wang, “Self-resource allocation in multi-agent llm systems,” *arXiv preprint arXiv:2504.02051*, 2025.
- [14] N. Belle, D. Barnes, A. Amayuelas, I. Bercovich, X. E. Wang, and W. Wang, “Agents of change: Self-evolving llm agents for strategic planning,” *arXiv preprint arXiv:2506.04651*, 2025.

AWARDS

2022	CS Academic Excellence Fellowship	Santa Barbara, USA
AWARDER	Computer Science Department, UC Santa Barbara	
2019	AI with Social Purposes - <i>Entrepreneurship track</i>	Madrid, Spain
AWARDER	We the Humans Think Tank	
2019	Best Student Award (Top 1) - Class 2019	Barcelona, Spain
AWARDER	Autonomous University of Barcelona Col·legi Oficial d'Enginyers Tècnics de Telecomunicacions de Catalunya Management Solutions	
2019	Galileo App Competition	Noordwijk, Netherlands
AWARDER	European Space Agency (ESA) Most Innovative App; Most Voted by the Audience	
2016	1st place EU-XCEL Startup Contest	Munich, Germany
AWARDER	EU-XCEL	

GRANTS

- Insitute for Decentralized AI Fellowship (2026)
- Cohere for AI Research Grant (2025)
- Severo Ochoa Mobility Grant - Barcelona Supercomputing Center (2025)

MENTORSHIP EXPERIENCE

1. Kyle Wong - UC Santa Barbara - Undergraduate [6]
2. Luke Yoffe - UC Santa Barbara - MS Project [9]
3. Dakota Barnes - UC Santa Barbara - BS/MS
4. Nikolas Belle - UC Santa Barbara - BS/MS

ACADEMIC SERVICE

Conference Reviewer: ICLR 2024, ACL-ARR Oct 2024, SCI-FM Workshop @ ICLR 2025, ACL-ARR Feb 2025, MAS Workshop @ ICML 2025, AI4Mat Workshop @ NeurIPS 2025, COLM 2026, NeurIPS 2026

OTHER

UNIVERSITY	Tsinghua University	Beijing, China
DEGREE	International Summer School - Industry Frontier Track	
PERIOD	July 2019	

VOLUNTEERING

PERIOD	July 2016 — August 2016	
ORG.	SMAN14 - Local high school	Padang, Indonesia
JOB TITLE	Language Teacher	
	Language teacher for High School students. Created my own learning units and organized workshops related to world issues.	
PERIOD	July 2015 — August 2015	
ORG.	AIESEC	Algiers, Algeria
JOB TITLE	Spanish Teacher	
	Spanish teacher for an Aiesec project during summer 2015. I transmitted my language and culture, worked on my communication skills and helped building global citizens.	

SKILLS & MORE

Computer Technologies

Python, C++, Java, SQL,
Pandas, Django, Javascript, Vue.js

Languages

Spanish (Native)
English (C2)
French (B2)
Catalan (C1)

Certificates

- Cambridge English: Proficiency (CPE)
- Cambridge English: Advanced (CAE)
- Advanced English Level Certificate
(Spanish Official School of Languages)

Societies & Organizations

Spain AI
Nova Talent
Pi Kappa Alpha (*alumni*)
Aiesec (*alumni*)