

# Alberto Pozanco

## PERSONAL DATA

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NATIONALITY: Spanish  
DATE OF BIRTH: 3 March 1993  
EMAIL: [alberto.pozanco@gmail.com](mailto:alberto.pozanco@gmail.com)  
WEB: <https://apozanco.github.io/>  
GOOGLE SCHOLAR: [Alberto Pozanco Scholar](#)  
GITHUB: <https://github.com/apozanco>

## RESEARCH INTERESTS

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Artificial Intelligence • Automated Planning • Heuristic Search • Goal Reasoning  
Goal Recognition • Explainable AI • Multiagent Systems • Machine Learning

## WORK EXPERIENCE

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JANUARY 2023 - CURRENTLY	Vice President - AI Research Lead JP Morgan, Madrid, Spain
MARCH 2022 - JANUARY 2023	AI Research Senior Associate JP Morgan, Madrid, Spain
FEBRUARY 2021 - MARCH 2022	AI Research Senior Associate JP Morgan, London, United Kingdom
FEBRUARY 2016 - FEBRUARY 2021	Research and Teaching Assistant Universidad Carlos III, Madrid, Spain <b>Description:</b> Research and Teaching Assistant at the Planning and Learning Group.
JULY 2020 - OCTOBER 2020	AI Research Intern JP Morgan, London, United Kingdom
SEPTEMBER 2019 - JANUARY 2020	Research Internship RMIT University, Melbourne, Australia <b>Description:</b> Visit to Prof. Sebastian Sardina, where we explored the synthesis of adaptive behavior for autonomous agents using fully-observable non-deterministic (FOND) planning.
MAY 2014 - NOVEMBER 2014	Data Analyst Jappysaver, Madrid, Spain <b>Description:</b> Use of Artificial Intelligence, Data Mining and Business Intelligence techniques in the development of an information retrieval tool.

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Last updated: August, 2023

## EDUCATION

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MARCH 2021	<p>PhD in Computer Science and Technology Universidad Carlos III, Madrid, Spain Thesis: "Goal Reasoning for Autonomous Agents using Automated Planning" Advisor: Prof. Daniel BORRAJO and Prof. Susana FERNANDEZ GRADE: Cumlaude</p>
SEPTEMBER 2016	<p>MSc in Computer Science and Technology with specialization in Artificial Intelligence, Universidad Carlos III, Madrid, Spain Thesis: "Planning and Learning for Urban Traffic Control" Advisor: Prof. Daniel BORRAJO and Prof. Susana FERNANDEZ GRADE: A</p>
SEPTEMBER 2015	<p>BSc in Computer Science with specialization in Artificial Intelligence, Universidad Carlos III, Madrid, Spain Thesis: "Analysis and Implementation of an Automatic Poker Player" Advisor: Prof. Carlos LINARES GRADE: A</p>

## PUBLICATIONS

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### Conference Papers

1. **Generating Realistic Replanning Goals through Multi-objective Optimization in Response to Execution Observation.** Pozanco, A.; Borrajo, D.; Veloso, M. To appear in *Proceedings of ECAI'23*, Krakow (Poland), 2023.
2. **Combining Heuristic Search and Linear Programming to Compute Realistic Financial Plans.** Pozanco, A.; Papasotiriou, K.; Borrajo, D.; Veloso, M. In *Proceedings of ICAPS'23*, 527-531, Prague (Czech Republic), 2023.
3. **Explaining Preference-driven Schedules: the EXPRES Framework.** Pozanco, A.; Mosca, F.; Zehtabi, P.; Magazzeni, D.; and Kraus, In *Proceedings of ICAPS'22*, 710-718, 2022.
4. **Multi-tier Automated Planning for Adaptive Behavior.** Ciolek, D; D'Ippolito, N; Pozanco, A; and Sardina, S. In *Proceedings of ICAPS'20*, 66-74, Nancy (France), 2020.
5. **Finding Centroids and Minimum Covering States in Planning.** Pozanco, A; E-Martín, Y; Fernández, S; and Borrajo, D. In *Proceedings of ICAPS'19*, 348-352, Berkeley (USA), 2019.
6. **Error Analysis and Correction for Weighted A\*'s Suboptimality.** Holte, R.C.; Majadas, R.; Pozanco, A.; and Borrajo, D. In *Proceedings of SoCS'19*, 135-139, Napa (USA), 2019.
7. **Counterplanning using Goal Recognition and Landmarks.** Pozanco, A; E-Martín, Y; Fernández, S; and Borrajo, D. In *Proceedings of IJCAI'18*, 4808-4814, Stockholm (Sweden), 2018.

### Journal Articles

1. **Train Route Planning as a Multi-agent Path Finding Problem.** Salerno M., E-Martín Y., Fuentetaja R., Gragera A., Pozanco A., Borrajo D. In *Advances in Artificial Intelligence. CAEPIA 2021. Lecture Notes in Computer Science*, vol 12882. Springer [https://doi.org/10.1007/978-3-030-85713-4\\_23](https://doi.org/10.1007/978-3-030-85713-4_23), 2021

2. **On-line Modeling and Planning for Urban Traffic Control.** Pozanco, A; Fernández, S; and Borrajo, D. *Expert Systems*, <https://doi.org/10.1111/exsy.12693>, 2021.
3. **Learning-driven Goal Generation.** Pozanco, A; Fernández, S; and Borrajo, D. *AI Communications*, vol. 31, no. 2, pp. 137-150, 2018.

## Workshop and Other Non-Archived Papers

1. **Contrastive Explanations of Multi-agent Optimization Solutions.** Zehtabi, P; Pozanco, A; Bloch, A; Borrajo, D; Kraus, S. In *arXiv preprint arXiv:2308.05984*, 2023
2. **Exploring the Limitations of using Large Language Models to Fix Planning Tasks.** Gragera, A; Pozanco, A. In *Proceedings of KEPS Workshop, ICAPS'23*, Prague (Czech Republic), 2023
3. **Fairness in Multi-Agent Planning** Pozanco, A. and Borrajo, D. In *arXiv preprint arXiv:2212.00506*, 2022
4. **Inapplicable Actions Learning for Knowledge Transfer in Reinforcement Learning** Ardon, L; Pozanco, A; Borrajo, D; and Ganesh, S. In *arXiv preprint arXiv:2211.15589* and *Proceedings of PRL Workshop, ICAPS'23*, 2022
5. **Anticipatory Counterplanning** Pozanco, A; E-Martín, Y; Fernández, S; and Borrajo, D. In *arXiv preprint arXiv:2203.16171*, 2022
6. **Filtering Top-K Relevant Plans.** Salerno, M; Tabernero, M; Pozanco, A; Fuentetaja, R. In *Proceedings of the 3rd Workshop on Planning for Financial Services (FinPlan)*, ICAPS'22, Singapore (Singapore), 2022
7. **PFPT: a Personal Finance Planning Tool by means of Heuristic Search and Automated Planning.** Pozanco, A; Papasotiriou, K; Borrajo, D. In *Proceedings of the 3rd Workshop on Planning for Financial Services (FinPlan)*, ICAPS'22, Singapore (Singapore), 2022
8. **Proving Security of Cryptographic Protocols using Automated Planning.** Pozanco, A; Polychroniadou, A; Magazzeni, D; Borrajo, D. In *Proceedings of the 2nd Workshop on Planning for Financial Services (FinPlan)*, ICAPS'21, Guangzhou (China), 2021
9. **A Planning Approach to Agile Project Management. The JIRA Planner.** Alamir, S; Zehtabi, P; Silva, R; Pozanco, A; Magazzeni, D; Borrajo, D; Shah, S; Veloso, M. In *Proceedings of the 2nd Workshop on Planning for Financial Services (FinPlan)*, ICAPS'21, Guangzhou (China), 2021
10. **Get me to Safety! Escaping from Risks using Automated Planning** Pozanco, A; E-Martín, Y; Fernández, S; and Borrajo, D. In *Proceedings of IntEx/GR Workshop, ICAPS'20*, Nancy (France), 2020
11. **Insights from the 2018 IPC Benchmarks.** Cenamor, I; and Pozanco, A. In *Proceedings of 5th Workshop on the International Planning Competition, ICAPS'19*, Berkeley (USA), 2019.
12. **Counterplanning in Real-Time Strategy Games through Goal Recognition.** Pozanco, A; Blanco, A; E-Martín, Y; Fernández, S; and Borrajo, D. In *Proceedings of 6th Workshop on Goal Reasoning, IJCAI'18*, Stockholm (Sweden), 2018.
13. **Distributed Planning and Model Learning for Urban Traffic Control.** Pozanco, A; Fernández, S; and Borrajo, D. In *Proceedings of Workshop on Knowledge Engineering for Planning and Scheduling, ICAPS'18*, Delft (Netherlands), 2018.
14. **Counterplanning using Goal Recognition and Landmarks** Pozanco, A; E-Martín, Y; Fernández, S; and Borrajo, D. In *Proceedings of 6th Workshop on Distributed and Multi-Agent Planning, ICAPS'18*, Delft (Netherlands), 2018

15. **Urban Traffic Control Assisted by AI Planning and Relational Learning.** Pozanco, A.; Fernández, S.; and Borrajo, D. In *Proceedings of 9th International Workshop on Agents in Traffic and Transportation (IJCAI'16)*, New York (USA), 2016.
16. **On Learning Planning Goals for Traffic Control.** Pozanco, A.; Fernández, S.; and Borrajo, D. In *Proceedings of 4th Workshop on Goal Reasoning (IJCAI'16)*, New York (USA), 2016.

## PATENTS

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1. **Method and System for Solving Subset Sum Matching Problem Using Dynamic Programming Approach.** Wu, Y.; Zehtabi, P.; Pozanco, A.; Borrajo, D.; Magazzeni, D.; Veloso, M.; Cashmore, M.; Deng, J. *US Patent App. 18/208,608*, 2023.
2. **Method and System for Solving Subset Sum Matching Problem Using Search Approach.** Wu, Y.; Zehtabi, P.; Pozanco, A.; Borrajo, D.; Magazzeni, D.; Veloso, M.; Cashmore, M.; Deng, J. *US Patent App. 18/208,603*, 2023.
3. **Method and System for Personal Financial Planning by Artificial Intelligence Search.** Pozanco, A.; Papasotiriou, K.; Borrajo, D.; Stefanucci, A.; Marchessotti, N.; Staddon, J.; Veloso, M. *US Patent App. 17/939,433*, 2022.
4. **Method and System for Space Planning by Artificial Intelligence Reasoning.** Silva, R.; Pozanco, A.; Zehtabi, P.; Magazzeni, D.; Veloso, M. *US Patent App. 17/647,205*, 2022.
5. **Method and System for Optimization of Task Management Issue Planning.** Alamir, S.; Pozanco, A.; Shah, S.; Magazzeni, D.; Borrajo, D.; Zehtabi, P.; Silva, R.; Veloso, M. *US Patent 11,681,963*, 2021.
6. **Method and System for Providing Dynamic Workspace Scheduler.** Zehtabi, S.; Pozanco, A.; Silva, R.; Alamir, S.; Borrajo, D.; Mahfouz, M.; Magazzeni, D.; Veloso, M.; Rasco, T.; Horn, J.; Blackwell, A.; Herschmann, D. *US Patent App. 17/450,609*, 2021.

## TEACHING

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### Teaching Assistant

- **Machine Learning**, 3th of BSc. in Data Science and Engineering, Spring 2020. Universidad Carlos III de Madrid. (*English*)
- **Machine Learning**, 3th of BSc. in Computer Science and Engineering, Spring 2020. Universidad Carlos III de Madrid. (*Spanish*)
- **Machine Learning**, 3th of BSc. in Computer Science and Engineering, Spring 2019. Universidad Carlos III de Madrid. (*Spanish*)
- **Artificial Intelligence in Games**, 4th of BSc. in Computer Science and Engineering, Fall 2018. Universidad Carlos III de Madrid. (*Spanish*)

### Supervision of MSc. Thesis

- **Counterplanning in Real-Time Strategy Games through Goal Recognition**, by Alejandro Blanco (co-supervised with Susana Fernández), Universidad Carlos III de Madrid.

### Membership in BSc. Thesis Committees

- October 2020, BSc. in Computer Science and Engineering, Universidad Carlos III de Madrid.

- July 2018, BSc. in Industrial Technology, Universidad Carlos III de Madrid.
- October 2018, BSc. in Computer Science and Engineering, Universidad Carlos III de Madrid.

## SCIENTIFIC ACTIVITIES

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### Invited Talks and Seminars

- Talk on "AI Search and Planning" at Learn Data & Analytics week, J.P. Morgan, Online (2023)
- Talk on "AI in Financial Institutions" at Universidad Internacional de Valencia, Valencia, Spain (2022)
- Talk on "Proving Security of Cryptographic Protocols using Automated Planning" at Simons Institute Industry Day, Berkeley, USA (2021)
- Talk on "Goal Reasoning for Autonomous Agents using Automated Planning" at RMIT University, Melbourne, Australia (2019)

### Workshop Organization

- Organizer of the 4th edition of the Planning and Scheduling for Financial Services Workshop (Finplan'23) at ICAPS, Prague, Czech Republic (2023)
- Organizer of the 3rd edition of the Planning for Financial Services Workshop (FinPlan'22) at ICAPS, Singapore (2022)

### Conference Reviewer

- **Program Committee** of the *38th AAAI Conference on Artificial Intelligence (AAAI'24)*.
- **Program Committee** of the *26th European Conference on Artificial Intelligence (ECAI'23)*.
- **Program Committee** of the *32nd International Joint Conference on Artificial Intelligence (IJCAI'23)*.
- **Program Committee** of the *37th AAAI Conference on Artificial Intelligence (AAAI'23)*.
- **Program Committee** of the *31st International Joint Conference on Artificial Intelligence (IJCAI'22)*.
- **Additional Reviewer** of the *32nd International Conference on Automated Planning and Scheduling (ICAPS'22)*.
- **Program Committee** of the *30th International Joint Conference on Artificial Intelligence (IJCAI'21)*.
- **Additional Reviewer** of the *35th AAAI Conference on Artificial Intelligence (AAAI'21)*.
- **Additional Reviewer** of the *34th AAAI Conference on Artificial Intelligence (AAAI'20)*.
- **Additional Reviewer** of the *29th International Conference on Automated Planning and Scheduling (ICAPS'19)*.
- **Additional Reviewer** of the *33th AAAI Conference on Artificial Intelligence (AAAI'19)*.
- **Additional Reviewer** of the *28th International Conference on Automated Planning and Scheduling (ICAPS'18)*.

## Journal Reviewer

- **Artificial Intelligence Journal (AIJ)**, since 2022.
- **Knowledge Engineer Review (KER)**, since 2023.

## COMPUTER SKILLS

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- **Programming Languages:** Python, C++, Java
- **Frameworks:** Scikit-learn, Numpy, Pandas, PyTorch, Dash