

## EDUCATION

### Ozyegin University

M.Sc. in Artificial Intelligence

Istanbul, Turkey

Graduated: August 2023

- **Thesis:** A Comprehensive Human-Agent Negotiation Framework: Preferences, Emotion & Interaction

### Ozyegin University

B.Sc. in Computer Science

Istanbul, Turkey

Graduated: December 2019

## RESEARCH EXPERIENCE

### Kanzy Financial Technologies

Co-founder & CTO

London, UK

March 2024 - On Leave

- Launched Finguru, a conversational investment and brokerage agent in a compliance-heavy wealth-management domain to deliver trustworthy decision support for individual investors (Supported by NVIDIA Inception, Google's AI Start-up Program & \$300k+ Angel Investment).
- Built a high-throughput RAG pipeline (20+ GB/day) for real-time news (Reuters/FT), SEC filings (10-K, 10-Q, 8-K), and market data for 5k+ US stocks and 30k+ funds; which combined high-frequency vector search with guardrailed LLMs to generate source-grounded, literacy-adaptive answers.
- Designed a persistent preference-learning and memory layer to model user goals and risk tolerance to ensure personalized outputs aligned with reliability, fairness, and transparency requirements.
- Led a 5-person MSc/PhD-level research engineering team from RL, MAS, and recommendation systems background, and engineered a multi-agent orchestration stack (LangGraph / DSPy / Text-to-SQL) with automated robustness and resilience evaluation under distribution shift while co-authoring 2 Information Retrieval papers.

### Ozyegin University

Research Assistant, [Interactive Intelligence Systems Lab](#), PI: Dr. Reyhan Aydogan

Istanbul, Turkey

August 2018 - August 2023

- Developed two granted open-source framework projects on human-agent negotiation & multi-agent pathfinding to investigate the differences between optimal game-theoretic behaviors of utilitarian agents and human behaviors according to their preferences and emotions through different protocols and strategies.
- Oversaw lab operations and mentored six MSc./BSc. researchers in multi-agent systems and human-agent interaction, providing research guidance & expediting project timelines.

### Technische Universiteit Delft

Visiting Researcher, [Interactive Intelligence Group](#), PI: Prof. Catholijn Jonker

Delft, NL

June - October 2022

- Developed a multimodal human-agent negotiation framework (speech, facial expression & gestures) to enhance collective decision-making; conducted human-robot experiments with 80+ participants.

### University of Cambridge

Visiting Researcher, [Affective Intelligence & Robotics Lab](#), PI: Prof. Hatice Gunes

Cambridge, UK

January - April 2022

- Developed a personalized agent strategy using continual learning to adapt to users' facial expressions and studied the impact of emotion-aware strategies in human-robot interactions with the Pepper robot.

### Brown University

Visiting Researcher, E-GLAMOR Group, PI: Prof. Amy Greenwald

Providence, RI, USA

June - August 2021

- Created a supply chain manager agent responsible for production planning, agreements, market risks analytics to maximize long-term profits & social welfare ([Runner-up in the Supply-Chain Management League in IJCAI 2021](#)).

### Oregon State University

Research Scholar, [Collaborative Robotics & Intelligent Systems Institute](#), PI: Prof. Yigit Menguc

Corvallis, OR, USA

June - August 2018

- Created a 3D printing path optimizer using machine learning and traveling salesman problem algorithms (e.g., Lin-Kernighan & Christofides algorithms), reducing the print time by 20–25% and costs by 5–10%.

## SKILLS

**Research Interests:** Information Retrieval, Multi-Agent Systems, Human-Agent Interaction, Reinforcement Learning, Trustworthy AI

**Programming:** Python, Java, R, MATLAB | **Tools:** AWS, Pinecone, PostgreSQL, CPLEX, ROS, SPSS, Git

**Frameworks:** Tensorflow, PyTorch, LangChain, DSPy, Scikit, OpenCV

## AWARDS & SCHOLARSHIPS

• <b>Young Researcher</b> , Heidelberg Laureate Forum Foundation	2025
• <b>Richard E. Merwin Student Scholarship</b> by IEEE Computer Society	2023
• <b>Best Research Assistant</b> , Graduate School of Engineering and Science, Ozyegin University	2022
• <b>Second Best Paper</b> , 18 <sup>th</sup> European Conference on Multi-Agent Systems	2021
• <b>2<sup>nd</sup> Place</b> , Supply-Chain Management League (Standard & Collusion Track), IJCAI	2021
• <b>1<sup>st</sup> Place</b> , IBM Watson's & RPI's Human Multi-Agent Immersive Negotiation Challenge, IJCAI	2020
• <b>MSc Research Scholarship</b> , The Scientific & Research Council of Turkey	2020 - 2023
• <b>Graduate Fellowship</b> , Graduate School of Engineering and Science, Ozyegin University	2020 - 2024
• <b>Research Experiences for Undergraduates (REU) Scholarship</b> , American National Science Foundation	2018

## TEACHING EXPERIENCE

• CS 551: Introduction to Artificial Intelligence (Graduate Course)	Spring 2021, 2022, 2023, & Fall 2022
• SEC 405: Artificial Intelligence: Impact on Humanity, Society, and Business	Spring 2021 & 2023
• CS 202: Database Management Systems	Spring 2022
• CS 103: Introduction to Computer Programming	Fall & Spring 2020

## ACADEMIC SERVICE & LEADERSHIP

• <b>PC</b> : AAMAS'26   <b>Reviewer</b> : AAMAS'21/24/25, ECAI'23, & EUMAS'21	
• <b>Secretary &amp; Board Member</b> , IEEE Computer Science Society Turkey Chapter	2023–2025
• <b>Organizer</b> , 14 <sup>th</sup> Automated Negotiating Agents Competition (ANAC) at AAMAS	2023
• <b>Volunteer Team Member</b> : IJCAI (2021–2022), AAMAS (2021), ACII (2021) & EUMAS (2021)	2021–2022
• <b>Committee Member</b> , 7 <sup>th</sup> Turkish Science Academy Machine Learning Summer School	2022

## PUBLICATIONS (S: SUBMITTED, J: JOURNAL, C: CONFERENCE, BC: BOOK CHAPTER)

- [S2] - E. Kuru, M.O. Keskin, 2025, “**RAG-MIXER: Query-Aware Selection of Modality and Retrieval Architecture**”
- [S1] - M.O. Keskin, E. Kuru, R. Aydoğan, 2025, “**Negoformer: Dynamic Pareto-Guided Negotiation with Transformer-Based Long-Horizon Opponent-Utility Forecasts**”
- [J4] - A. Doğru, M.O. Keskin & R. Aydoğan, 2024, “**Taking into Account Opponent's Arguments in Human-Agent Negotiations**”, ACM Transactions on Interactive Intelligent Systems.
- [J3] - M.O. Keskin, F. Canturk, C. Eran & R. Aydoğan, 2024, “**Decentralized Multi-Agent Path Finding Framework and Strategies Based on Automated Negotiation**”, Autonomous Agents and Multi-Agent Systems.
- [J2] - M.O. Keskin, B. Buzcu & R. Aydoğan, 2023, “**Conflict Based Negotiation Strategy for Human-Agent Negotiation**”, Applied Intelligence, Springer.
- [J1] - R. Aydoğan, M.O. Keskin & U. Çakan, 2022, “**Would You Imagine Yourself Negotiating With a Robot, Jennifer? Why Not?**”, in IEEE Transactions on Human-Machine Systems.
- [C9] - E. Kuru, M.O. Keskin, 2025, “**Evaluating Modern RAG: Textual, Multimodal, Dense, and Late Interaction Pipelines**”, 48<sup>th</sup> International ACM SIGIR Conference on Research and Development in Information Retrieval, Workshop on Information Retrieval's Role in RAG Systems.
- [C8] - M.O. Keskin, U. Çakan, & R. Aydoğan, 2025, “**An Adaptive Emotion-Aware Strategy for Human-Agent Negotiation: Insights from Real-World Human-Robot Experiments**”, 25<sup>th</sup> ACM International Conference on Intelligent Virtual Agents.
- [C7] - A. Doğru, M.O. Keskin, C.M. Jonker, T. Baarslag, & R. Aydoğan, 2024, “**NegoLog: an integrated python-based automated negotiation framework with enhanced assessment components**”, IJCAI 2024.
- [C6] - M.O. Keskin, B. Buzcu, B. Koçyiğit, U. Çakan, A. Doğru & R. Aydoğan, 2024, “**NEGOTIATOR: A Comprehensive Framework for Human-Agent Negotiation Integrating Preferences, Interaction, and Emotion**”, 33<sup>rd</sup> International Joint Conference on Artificial Intelligence, IJCAI 2024.
- [C5] - M.O. Keskin, S. Akay, A. Doğan, B. Koçyiğit, J. Kanero, & R. Aydoğan, 2024, “**You Look Nice, but I Am Here to Negotiate: The Influence of Robot Appearance on Negotiation Dynamics**”, HRI'24: Companion of the 2024 ACM/IEEE International Conference on Human-Robot Interaction.
- [C4] - U. Çakan, M.O. Keskin & R. Aydoğan, 2023, “**Effects of Agent's Embodiment in Human-Agent Negotiations**”, 23<sup>rd</sup> ACM International Conference on Intelligent Virtual Agents.
- [C3] - G. Yesevi, M.O. Keskin, A. Dogru & R. Aydoğan, 2022, “**Time Series Predictive Models for Opponent Behavior Modeling in Bilateral Negotiations**”, The 24<sup>th</sup> International Conference on Principles and Practice of Multi-Agent Systems.
- [C2] - [Second Best Paper], C. Eran, M.O. Keskin, F. Canturk, & R. Aydoğan, 2021, “**A Decentralized Token-Based Negotiation Approach for Multi-Agent Path Finding**”, 18<sup>th</sup> European Conference on Multi-Agent Systems (EUMAS'21).
- [C1] - M.O. Keskin, U. Çakan, & R. Aydoğan, 2021, “**Solver Agent: Towards Emotional and Opponent-Aware Agent for Human-Robot Negotiation**”, 20<sup>th</sup> International Conference on Autonomous Agents and Multi-Agent Systems, pp. 1557–1559.
- [BC1] - R. Aydoğan, M.O. Keskin, & U. Çakan, 2021, “**Let's negotiate with Jennifer! Towards a Speech-Based Human-Robot Negotiation**”, Advances in Automated Negotiations, Springer, pp. 3–16.