Ali Jalal-Kamali

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Webpage • LinkedIn • Google Scholar

Experience

Institute for Creative Technologies (ICT) at University of Southern California (USC)

Research Team Lead in Social Simulation Lab *Sep 2016 – present*

- Recruited and led 3-5 masters and undergraduate students per semester, to partake in AI research with focus on agent-based psychological simulation projects, and ensured they met deliverable deadlines.
- Collaborated with multiple research teams at ICT on a $3.5 million ARL project, in order to deliver a comprehensive simulation in form of a training system, as Patterns of Life (POL) project in conflict scenarios. The system was presented to army generals.
- Developed TRIBE (Team-based Raw Interactions to Behavioral Ensembles) pipeline, under a DARPA funded project. TRIBE processes natural language communications of teams and generates behavioral clusters predicting team performances, using topic modeling (LDA) and clustering (kmeans).
  – Early prediction of team's performance cluster, 76% accuracy at 1/3 of the task, 96% at halfway.
  – Detection of temporal changes in team behavior states, using survival analysis.
  – Intervention impact evaluation for AI and human agents, using Markov chain analysis.
  – Pipeline prediction quality optimization by 52%, along with 24x speed up. Various methods and their parameters were tested, resulting in NMF+GMM as the optimal pipeline.
  – PCA analysis with PC1 comprised of 3 topics, describing 93% of the variance.

Researcher *May 2014 – Aug 2016*

- Built an NLP pipeline for extraction of geopolitical actors' actions and their impacts on country-pair affinity (Ideal Point Distance), through scrapping and processing the news articles. The system provided the inputs for an off-shelf POMDP decision theoric system, PsychSim, simulating the interactions.
- Built a Bayesian Network of country interactions based on the GDELT dataset of world events. The system described the country-pair action dependencies along with their affinities, and allowed for inquiries of various scenarios as well as a path to evaluate the accuracy of GDELT data extraction.

Perfit Inc.

Founder/ CEO *Aug 2016 – Dec 2018*

- Founded a virtual 3D try-on startup, using 2D pictures of phone cameras.
- Recruited and managed a team of 5 members across LA and Bay Area.
- Recruited and managed a team of 15-18 interns per semester.
- Built relations with clothing brands such as BCBG, Quiksilver, angel investors, and venture capitalists.
- Wrote contracts with the clothing brands to test the product.
- Received multiple angel investor offers for the seed round.
- Attained legal representation with deferred fees.
- Built a semi-prototype for the fitting room experience.

Academy of Motion Picture Arts and Sciences

Academy Gold Intern *May 2017 – Aug 2018*

- Developed a Django platform for a webpage to access the Academy Color Encoding System (ACES).
- Participated in exclusive Academy screenings, panels, and events with industry professionals with Q&A and networking opportunities.
- Participated in the 8 month mentorship program by working with an academy member in the producer branch through the Academy.
- Associate producer on a USC Master's thesis film, Teddy Mate.

Computer Science Department at USC

Head Teaching Assistant (TA) for Artificial Intelligence *Jan 2016 – Jan 2017*

- Managed 18 TAs/graders for designing, proctoring, and grading of course's homeworks, discussion board, and exams for a class of 350 students.
- Collaborated with the 3 instructors of the course and met all the requirements and deadlines.
- Set up efficient systems that allowed for large distribution, grading, and re-grading requests for homeworks and exams.
- Delegated the assigned work of each TA/grader while preventing any overlaps.
- Set up a forum with TA supervision allowing for collaborative discussions among students and

preventing overwhelming the office hours for TAs.
- Was awarded the Best TA Award from the Viterbi School of Engineering.

Funding Projects

Task-Independent Reasoning for Human-Machine Teams, UARC 2023–PRESENT
Artificial Social Intelligence for Successful Teams (ASIST), DARPA 2019–2023
Modeling Group Dynamics, ARL 2021–2023
Population Modeling for Analysis & Training, ARL 2019–2021
Autonomous Generation of Intelligent Patterns of Life, US Army 2019–2021
Analytic Projection for Authoring & Profiling of Social Simulations, ARO 2017–2020
OpenMind, ARO 2014–2017

Education

University of Southern California LOS ANGELES, CALIFORNIA
PhD in Computer Science *August 2025*
Dissertation: *From Nations to Teams: AI-Driven Behavioral Modeling of Human Interactions.*
Additional studies and experience in Entrepreneurship and Cinematic Arts

The University of Texas at El Paso EL PASO, TEXAS
MSc in Computer Science *May 2012*
Thesis: *Estimating Statistical Characteristics under Interval Uncertainty and Constraints.*

University of Kerman KERMAN, IRAN
BSc in Computer Science and Management *August 2007*

Skills

Soft Skills: Entrepreneurship, large and small team leadership, talent acquisition, resource management, conflict resolution, agile idea testing, building professional relationships.
Technical Expertise: Form and test research hypotheses. Statistical modeling. Optimization. PCA analysis. Supervised and unsupervised AI, ML, and NLP methods in Python and R, such as topic modeling, clustering, logistic regression, Bayesian networks, POMDP. Temporal analysis methods such as survival analysis and Markov chain analysis. LLM prompting, AWS, SQL, Bash, Batch, Latex.
Spoken Languages: Persian, English.

Academic Honors

Best Teaching Assistant 2016 Viterbi School of Engineering at USC.
Golden Key Honor Society 2015 – Current By-invitation-only Membership for student with high academic status and achievements.
Best Student Paper Award 2013 Jalal-Kamali, A., Kreinovich, V., 2013. Estimating Third Central Moment for Privacy Case under Interval and Fuzzy Uncertainty, In *World Congress of the International Fuzzy Systems Association IFSA2013, and Annual Conference of the North American Fuzzy Information Processing Society NAFIPS2013 Joint Conference.*

Selected Publications

Jalal-Kamali, A., Gurney, N.M. and Pynadath, D.V., 2025, May. Predicting Team Performance from Communications in Simulated Search-and-Rescue. In *Proceedings of the 24th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2025) (pp. 2565-2567).*
Jalal-Kamali, A. and Pynadath, D.V., 2018, July. Using Natural-Language Processing to Automatically Construct Agent-Based Psychological Models of Geo-Political Actors, In *Proceedings of International Joint Conferences on Artificial Intelligence (IJCAI 2018).*
Jalal-Kamali, A. and Pynadath, D.V., 2016, June. Toward a Bayesian network model of events in international relations. In *International Conference on Social Computing, Behavioral-Cultural Modeling and Prediction and Behavior Representation in Modeling and Simulation (pp. 311-322).*
Jalal-Kamali, A. and Kreinovich, V., 2013. Estimating correlation under interval uncertainty. *Journal of Mechanical Systems and Signal Processing, 37(1-2), (pp.43-53).*
Jalal-Kamali, A., et al, 2011. Towards a "Generic" Notion of Genericity: From "Typical" and "Random" to Meager, Shy, etc. *Journal of Uncertain Systems, 6(2).*