## Letter of Intent Cover Letter

Dec 25th, 2025

School of Computer Science, Institute for Research in Fundamental Sciences (IPM) Tehran, Iran

Dear Search Committee,

I am applying for a research position (permanent/ visiting) at School of Computer Science at IPM. I'm currently a Research Staff in the Department of Communication at Stanford University and Adjunct Assistant Professor in the Department of Computational Media at University of California, Santa Cruz. I received my PhD in Computer Science from the University of Colorado at Boulder.

I'm a Computational Social Scientist with broad interests in human-AI interactions, social behavior, media effects, social media, and well-being. Motivated by understanding the social and psychological impact of media and AI technologies, my research program focuses on two complementary research lines: (1) Modeling and predicating psychological experiences from multimodal behavioral data collected through sensing technologies (e.g. mobile sensing), social media, and AI interaction logs, and (2) Examining how social interactions in both human—human and human—AI contexts shape individual well-being, social connection, and emotional experience. In my work, using computational modeling and statistical inference, I investigate how digital media and AI interaction plays out across contextual dimensions (e.g., spatial, social, relational, and physical vs. digital settings), and how person-aware factors moderate these dynamics. By integrating multimodal, longitudinal, and contextual data, I aim to develop and evaluate personalized AI systems that are emotionally and culturally aware, and that support social and emotional well-being in young adults and adolescents.

My academic training in computer science and communication allow me to use computational methods to answer substantive social science research questions. In conducting my research, I employ a broad range of interdisciplinary computational and statistical methods, including machine learning, data mining, natural language processing, AI, large language models (LLMs), network science, causal inference, and multilevel modeling. I combine these approaches with self-report and behavioral methods (e.g., surveys, mobile sensing, and ecological momentary assessment), to generate robust, and real-world evidence about the societal consequences of digital media and AI.

Given my experience in teaching in data science, I'm prepared to teach undergraduate and graduate courses such as Data Science Foundation, intro to Data Science Programming, Intro to Probability and Statistics, Machine Learning, intro to AI, Statistical Learning, Data Analytics and Mining, Social Network Analysis, and Time Series Analysis. Building on my research interests, I would also enjoy developing new upper division and graduate courses on Causal Inference for Social and Behavioral Science, Topics in Human-AI interaction, AI for Social Good, Empirical Methods in Social Science, Data Ethics, and Ethic in Technology and AI.

These teaching experiences have been equipped me to develop training materials and improve curriculum to provide research and professional development opportunities for a diverse student body. In addition, given my several experiences in organizing events and workshops, I would be happy to help lead a human-centered workshop series by inviting speakers and providing service to the department.

As an interdisciplinary scholar with strong computational and quantitative training, I bring a research program grounded in computational social science that bridges AI, human behavior, and psychological well-being, and I can help broaden the department's focus on interdisciplinary applications of AI/ML. Additionally, given my expertise in using data science to explore social dynamics, both in academia and industry, I am well-positioned to contribute to the department's interest in other area of specialization. My recent teaching in Ethics and AI additionally equipped me to develop further courses in this area. I believe this position is an excellent fit for my expertise and research trajectory, and I can envision contributing and collaborating with interdisciplinary research scholars in areas including applied AI/ML, computational social science, and human-data interaction.

I have included my CV, and research statement. You will also receive letters of recommendation from the following individuals: Dr. Elena Zheleva, Assistant Professor, Department of Computer Science, University of Illinois, Chicago (ezheleva@uic.edu); Dr. Magy Seif El-Nasr, Professor and Chair, Department of Computational Media, University of California, Santa Cruz (mseifeln@ucsc.edu); and Dr. Shivakant Mishra, Professor, Department of Computer Science, University of Colorado Boulder (Shivakant.Mishra@colorado.edu).

Thank you for considering my application. I look forward to hearing from you.

## Sincerely,

Mahnaz Roshanaei, PhD Research Staff Media and Personality Lab Department of Communication Stanford University

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