



CAIS TECHNICAL REPORT 1

USC CENTER FOR
ARTIFICIAL INTELLIGENCE IN SOCIETY
MISSION STATEMENT

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USC Center for Artificial Intelligence in Society: Mission Statement

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The USC Center for Artificial Intelligence in Society is a joint venture between the Suzanne Dworak-Peck School of Social Work and the Viterbi School of Engineering. Our mission is to conduct research in Artificial Intelligence to help solve the most difficult social problems facing our world. When we consider what problems to tackle, we focus our efforts on low resource communities both here in the United States and globally. We draw inspiration from the Grand Challenges of Social Work, the Grand Challenges of Engineering, and the United Nations Sustainable Development Goals, and the United Nations Millennium Development Goals. Together, they outline a set of goals which if attained would greatly benefit the well-being of countless persons across the world. Simultaneously, these set of goals provide important new directions for AI and social science research. Based on these goals, our initial projects focus on ending homelessness, fighting substance abuse, preventing suicide, improving access to health care, social responses to global climate change, reducing gang violence, and protecting wildlife.

The overarching goal of the center is to be the creation of a new field of scientific research, namely the use of Artificial Intelligence to solve wicked social problems in the world. As a field AI has just begun to consider the role it can have in promoting social good (with many recent events focused on “AI for Social Good”), and social work has just begun to engage with computer science to enhance the impact of social work science. The center will seek to bring researchers from around the world to focus on how computer science can be used to solve social problems. It is our intention that the research which emerges from this center will impact changes in national and international policy, enhance specific social programs, and move toward the creation of a new field of study which merges the technological expertise of engineering with the domain expertise of social work in solving seemingly intractable social problems.

We are aware that many persons in both the scientific community as well as the lay public are increasingly concerned about the impact that AI may have on society. Our primary goal in this center is to share our ideas about how AI can be used to tackle the most difficult societal problems. We believe that this agenda can best be tackled by a genuine partnership between AI and social work. From AI come new technologies, approaches and from social work comes a deep understanding of human behavior and how to intervene effectively in society. Our dream is to create

new technologies and new solutions which help to improve the lives of all, particularly those marginalized populations who have also been the focus of social work.

How do we focus our research efforts? With respect to what social problems have motivated the activities of CAIS and will continue to motivate us, we look to the Grand Challenges of Social Work, Engineering and the Development Goals of the United Nations. We would like to point out that there is a great deal of overlap to be seen across these Grand Challenges and Goals. For example both Social Work and the United Nations prioritize fighting poverty; both Engineering and the United Nations prioritize clean drinking water. And all four prioritize enhancing the health and well-being of people around the world. What these challenges and goals share is a focus on improving life for all people, particularly underserved and marginalized populations throughout the United States and internationally. The focus of CAIS is to focus AI research to encompass technological advancements that will help underserved and marginalized populations who have typically not been the beneficiaries of AI. In entering into this intellectual space, we hope to create new scientific advancements within both computer science and social science. To learn more about the Grand Challenges of Social Work, Engineering, and Goals set by the United Nations, please explore the following web resources:

- Grand Challenges of Social Work (<http://aaswsw.org/grand-challenges-initiative/>)
- Grand Challenges of Engineering (<http://www.engineeringchallenges.org/>)
- United Nations Sustainable Development Goals (<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>)
- United Nations Millennium Development Goals (<http://www.un.org/millenniumgoals/environ.shtml>)

Among many topics the USC Center for Artificial Intelligence in Society can impact health, sustainability, conservation, and under-served populations. Few example of current projects include the following:

- AI for peer-based HIV intervention: We have been working on using AI to enhance the implementation of peer-based HIV testing programs for homeless youth in Los Angeles. Here AI algorithms are used for more effective peer leaders within a social network to spread HIV information. While an initial pilot test showed the promise of AI algorithms in comparison with tradition methods, a new randomized control trial with 900 homeless youth is about to begin
- AI for wildlife conservation: We have been working with NGOs for wildlife conservation, including WWF, WCS and PANTHERA to implement AI based techniques for assisting rangers in the field. We have shown . Here AI

algorithms are used for predicting poacher activity, so that patrols can more effectively stop the poachers before they deploy their traps to kill animals.

- AI for exploring network data collection and modeling of substance abuse prevention programs: With a new grant, we propose to explore network data collection enhancements and modeling of substance abuse prevention programs for homeless youth.
- AI for public safety and security: In collaboration with the US Coast Guard, the Transportation Security Administration and different police departments, we have used AI for enhancing security resource optimization. We propose to build on this previous work towards public safety and security in urban settings, such as those involving gang violence.