Symposium on Artificial Intelligence for Development (AI-D)

Stanford, California

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Preface to the Proceedings

This collection contains a set of articles and position papers on Artificial Intelligence for Development (AI-D). Each paper explores one or more opportunities for harnessing AI to promote the socioeconomic development and to enhance the quality of life of disadvantaged populations, including those within developing countries.

Insightful applications of machine learning, reasoning, planning, and perception have the potential to bring great value to disadvantaged populations in a wide array of areas, including healthcare, education, transportation, agriculture, and commerce. As an example, learning and reasoning can extend medical care to remote regions through automated diagnosis and effective triaging of limited medical expertise and transportation resources. Machine intelligence may one day assist with detecting, monitoring, and responding to natural, epidemiological, or political disruptions. Methods developed within the artificial intelligence community may even help to unearth causal influences within large-scale programs, so we can better understand how to design more effective health and education systems. And ideas and tools created at the intersection of artificial intelligence and electronic commerce may provide new directions for enhancing and extending novel economic concepts like microfinance and microwork.

Machine learning holds particular promise for helping populations in developing regions. Unprecedented quantities of data are being generated in the developing world on human health, commerce, communications, and migration. Automated learning methods developed within the AI community can help to tease out insights from this data on the nature and dynamics of social relationships, financial connections and transactions, patterns of human mobility, the dissemination of disease, and such urgent challenges as the needs of populations in the face of crises. Models and systems that leverage such data might one day guide public policy, shape the construction of responses to crises, and help to formulate effective long-term interventions.

Machine intelligence has been pursued before in projects within the broader Information and Communication Technologies for Development (ICT-D) community. These and other ICT-D efforts have already led to valuable ideas, insights, and systems. We hope that the organization of this symposium on AI-D will stimulate even more focus on opportunities to harness machine learning, reasoning, and perception to enhance the quality of life within disadvantaged populations. We see the AAAI Spring Symposium at Stanford as serving both as a focal point and launching pad in bringing together a critical mass of researchers who share an interest in applying AI research to development challenges.

We thank the authors, attendees, and program committee for their creativity, effort, and energy in organizing this meeting exploring the potential of AI for enhancing the lives of disadvantaged populations.

Nathan Eagle and Eric Horvitz

Co-chairs