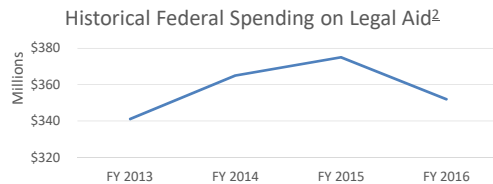# Assistive Agents for Self-Represented Litigants

Mark Rucker and Matthew S. Gerber
University of Virginia

Daniel Becker
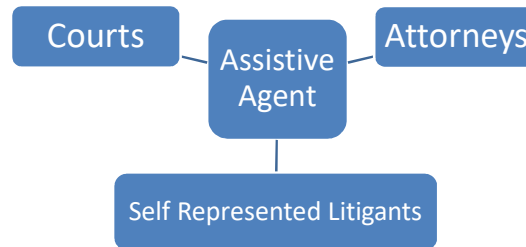Thomson Reuters

NEED & INDUSTRIAL RELEVANCE

- In America today fewer than one in five low-income individuals have access to the legal help they need[1]
- To meet this need it is estimated that federal spending on legal aid needs to increase from $300M to $1.6B[1]

Historical Federal Spending on Legal Aid[2]

1. Documenting The Justice Gap In America 2009
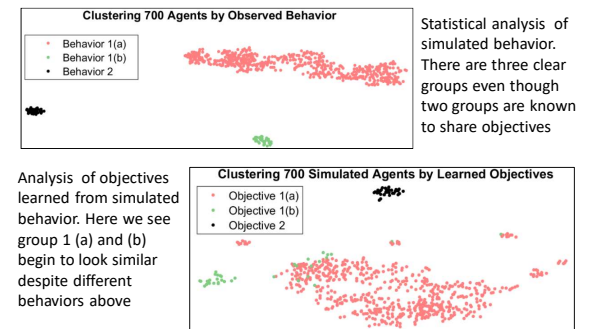2. Legal Services Corporation Funding (www.lsc.gov/lsc-funding)

PROJECT GOALS

- Meet legal needs without increasing federal spending
- Give truly helpful and personalized assistance to SRLs
- Connect SRLs with attorneys and courts when needed

OBJECTIVES

- Conduct seminal research into digital assistants
- Demonstrate usefulness of RL to knowledge services
- Extend current research to identify an SRL's objectives and needs (Rewards) based on their behaviors (Policy)

Statistical analysis of simulated behavior. There are three clear groups even though two groups are known to share objectives

Analysis of objectives learned from simulated behavior. Here we see group 1 (a) and (b) begin to look similar despite different behaviors above

APPROACH (RESEARCH METHODS)

- **Hypothesis**: Capturing an SRL's objectives is key to personalized *process insights, improved attorney-litigant matching* and *smart recommendations*.
- **Data**: Currently using synthetic data from an ABM. We are in the process of acquiring naturalized SRL data.
- **Analysis**: With the data an MDP is designed to capture system dynamics. Using the MDP, agents can be viewed as Reinforcement Learners with recoverable objectives.
- **Current Results**: Using IRL we have extracted artificial agent objectives and demonstrated these objectives are sufficient to fully explain observed agent behavior
- **Planned Results**: State features most important to explaining given SRL objectives will be discovered and experiments will be designed to show this importance

DELIVERABLES/OUTCOMES

- A framework for determining useful SRL rewards
- An MDP model which fully captures the SRL process
- Source code used to determine SRL objectives
- Submission of work to the 2018 TIG Conference
- [Submission of paper to recommended conference]

IMPACT

- Increased access to legal services for SRL's
- Measurable increase in legal outcomes for SRL's
- Advancements in using MDP's to model human systems
- Demonstrated use of IRL to capture human objectives
- New business for attorneys through litigant matching
- Decreased pressure on court help and service desks