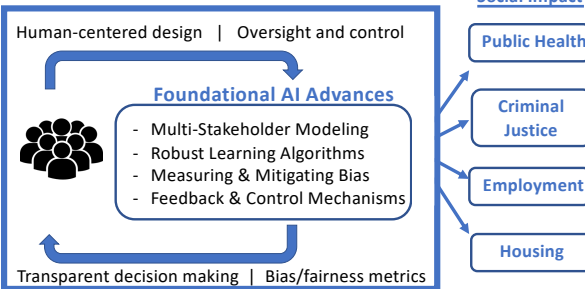




Tulane University Center for Community-Engaged Artificial Intelligence

The growing impact of AI on society demands transformative research into how such systems are designed and deployed. CEAI pursues approaches that

- 1) that are demonstrably equitable, transparent, and accountable
- 2) that establish meaningful relationships with diverse stakeholders at all stages
- 3) that augment, rather than replace, human interaction



Community-Led Research Project Pipeline

Community Workshops



- Brainstorming
- Relationship building with non-profits
- Learning from the community

Service Learning Capstone Projects



- Year long undergraduate projects
- Data collection and refinement
- Build working prototypes/features with immediate impact

Cross-Disciplinary Research



- Build faculty teams across departments
- Scope research projects with community partners
- Seed funds to initiate projects
- Seek joint funding opportunities



Aron Culotta Computer Science
Nicholas Mattei Sociology
Andrea Boyles Economics
Patrick Button Public Health
Alessandra Bazzano
Caryn Bell

A multi-disciplinary team of scientists, engineers, students, and community partners dedicated to innovating human-centered AI to benefit society



<https://sse.tulane.edu/cs/ceai>



A Community-Driven Digital Platform for Criminal Court Transparency

D. Browder, J. Manley – Court Watch NOLA; A. Schoeny, M. Long, J. Licht, E. Sollander, A. Boyles, N. Mattei, A. Culotta- Tulane

ROI: Understanding community concerns in criminal court

- Participatory research
- Focus groups
- Continuous feedback
- Defendants/Victims
- Court employees
- Community advisory board

ROI2: Heterogeneous data extraction and fusion

- Improved court data
- Information extraction
- Fusing noisy data
- Court records
- Public records request
- Volunteer observations

ROI3: Rigorous, responsive data analysis toolkit

- Foundational models
- Neural causal modeling
- Outlier detection

ROI4: Community-in-the-loop knowledge acquisition and refinement

- AI-driven volunteer guidance
- Feedback loops to refine system
- Volunteer allocation

Foundational models for criminal court

- Outlier detection
- Causal inference

learn → model → impact

Public records requests → Court dockets → Volunteer court observations

Average Bond Amount by Race

Race	Average Bond Amount
Asian	~5,000
Black	~20,000
Hispanic	~8,000
White	~12,000

Average Bond Amount by Sex

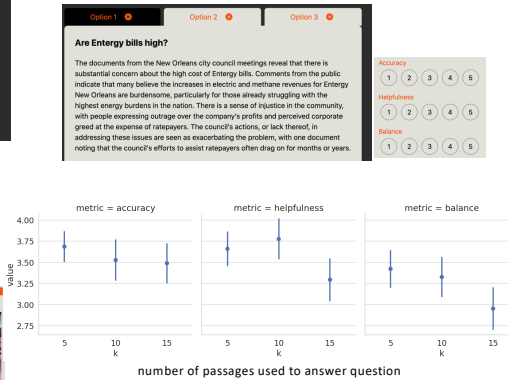
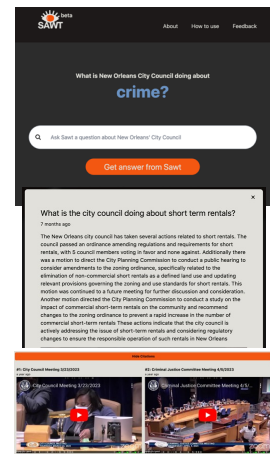
Sex	Average Bond Amount
Female	~10,000
Male	~20,000

learned representation

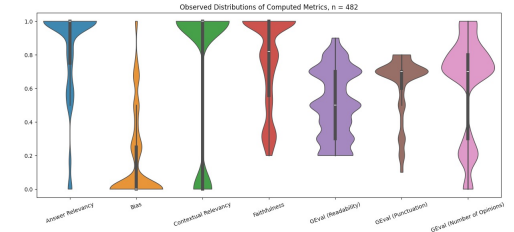
defendant: age=28, gender: male
 case 1: charge: theft, magistrate: john
 bond set: \$5,000
 bond reduced: \$1,000
 DA: refuses charges
 case 2: charge: theft, magistrate: jane
 bond set: \$10k
 predicted: \$12k

LLMs to Understand City Government

Ayyub Ibrahim, Marvin Arnold - Eye on Surveillance; Catherine Brooks, Hayden Outlaw, Mikey Sison, Aron Culotta- Tulane



DeepEval / G-Eval (Liu et al. 2023)



Future Work: Community-sourced data sharing for LLMs

