Tulane University
Center for Community-Engaged Artificial Intelligence

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

scaling human-centered, translational AI at Tulane

Aron Culotta
Nicholas J. Altiero Professor
Computer Science
December 16, 2025


Aron Culotta
Computer Science


Nicholas Mattei


Andrea Boyles
Sociology


Patrick Button
Economics


Kristefer Stojanovski


Caryn Bell

Public health

Tulane University
Center for Community-Engaged Artificial Intelligence

Affiliate Faculty

Saad Hassan
Assistant Professor of Computer Science

Jordan Karubian
Professor of Ecology and Evolutionary Biology

Lizheng Shi
Neal A. and Mary Vanselow Chair in Health Management, WSPH

Katherine Theall
Professor of Social, Behavioral & Population Sciences

Fallon Samuels Aidoo
Assistant Professor of Real Estate and Historic Preservation

Alessandra Bazzano
(Founding Co-Director) Chair and Professor, Dept. of Maternal and Child Health, UNC

Ibrahim Demir
Michael A. Fitts Presidential Chair in Environmental Informatics and Artificial Intelligence

Vivian Fonseca, MD
Assistant Dean for Clinical Research, Chief of Endocrinology, Professor School of Medicine

Audrey Hang Hai
Assistant Professor of Social Work

Douglas N. Harris
Professor of Economics

CEAI Timeline

- Jan 15th, 2022 CoE LOI Submitted
- June 15th, 2022 CoE Proposal Submitted
- September 15th, 2022 CoE Awarded

- November 28th, 2022
  - The Thirty-Sixth Annual Conference on Neural Information Processing Systems in New Orleans

NEURAL INFORMATION PROCESSING SYSTEMS

CEAI Timeline

- Jan 15th, 2022: CoE
- June 15th, 2022: Su
- September 15th, 2(
- November 28th, 2C
  - The Thirty-Sixth A
    Information Proce
  - Rumors of a new

Sam Altman
@sama

today we launched ChatGPT. try talking with it here:

chat.openai.com

1:38 PM · Nov 30, 2022

1.3K 9.8K 36K 10K

Generative AI

Generative A.I. Arrives in the Gene Editing World of CRISPR

Much as ChatGPT generates poetry, a new A.I. system devises blueprints for microscopic mechanisms that can edit your DNA.

Moonvalley is a groundbreaking new text-to-video generative AI model

Create breathtaking cinematic & anima

Be Smart!

Cut Your Study Time in Half, Ace Your Exams, Outshine Your Peers

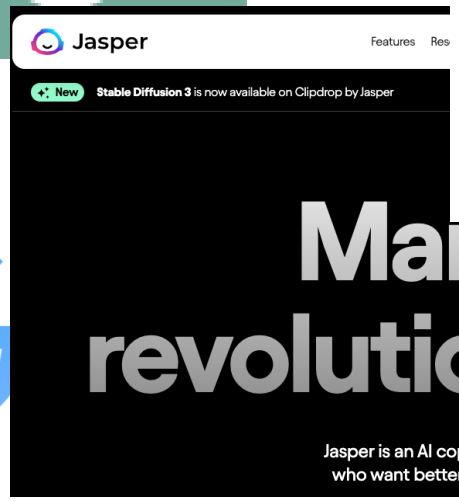
Skip the multiple apps. Shepherd connects you with everything y
need to learn better in one place.

Become a tutor | Get Started

Contract & Negotiation

AI built for lawyers

AI_



Marketing revolutionized by AI

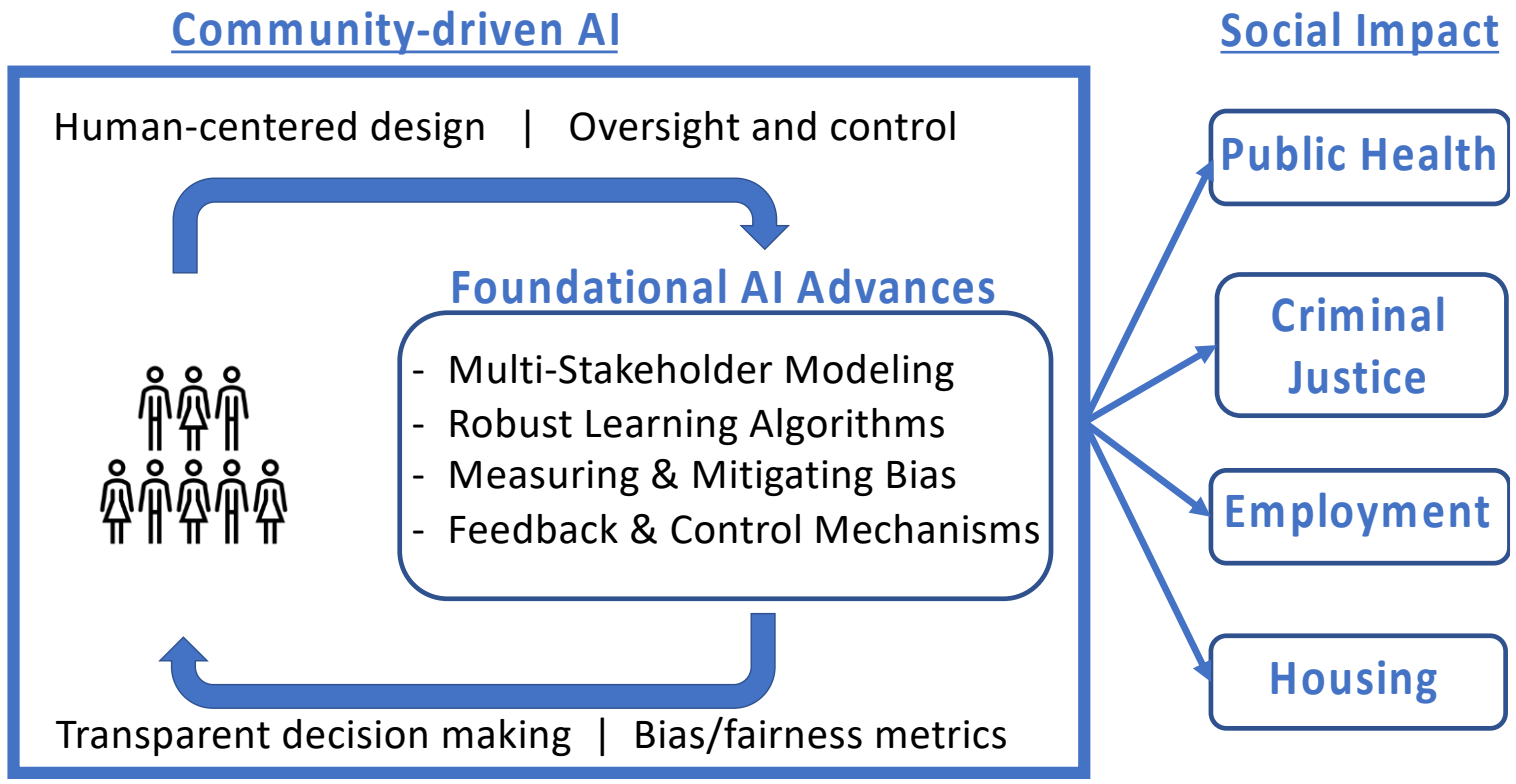
Jasper is an AI copilot for enterprise marketing teams who want better outcomes, not just faster outputs.

What is Tulane's "niche" in AI?

- As President Fitts put it, Tulane's "*fluid academic structure, distinctive relational culture and outward-looking focus underlie our adaptability, strength and success. No other university in the country integrates these qualities better than Tulane.*"
- Cross-disciplinary nature and navigable size makes us uniquely positioned to build diverse teams for AI research.
- A focus on translational research that improves society builds upon Tulane's founding history of place-based research and investments in innovation, community service, and entrepreneurship.

CEAI Mission

To innovate *human-centered, community-engaged AI,* bringing together scientists, engineers, students, and community partners.



AI should not be siloed in one school

extramural funding with co-Is from 8 academic disciplines

computer science, medicine, public health, economics, sociology, political science, art, and law

CEAI Activities

Cross-disciplinary research teams

Extramural funding
Joint publications

Community Building

Seminars
Workshops
Partnerships

Expanding Tulane AI Capacity

Seed Grants
AI Innovation Fellow Program

Education and Student Mentoring

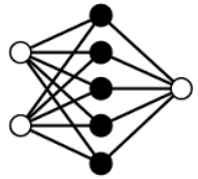
New degrees
Service Learning
Undergraduate Research

Community-led Research Project Pipeline

Community Workshops

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

Cross-Disciplinary Research



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

NIH NSF

Service Learning Capstone Projects

TULANE UNIVERSITY
Center *for* Public Service

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

Community-led Research Project Pipeline

Comm

Understanding community perceptions of AI

"Artificial Intelligence: Risks and Benefits for Local Communities"

Friday April 28th, 2023
9:00am - 12:00pm
Tidewater Building - Diboll Gallery - Tulane University - 1440 Canal Street

COURT WATCH NOLA

GUARDIANS INSTITUTE

THE DATA CENTER

WOMEN WITH A VISION

thrive NEW ORLEANS

NCBW 100

NIH

NSF

ry Research

ld faculty teams across
›artments

›pe research projects with
nmunity partners

d funds to initiate projects

k joint funding opportunities

Service
Capston

TULANE UNIVERSITY
Center *for* Public Service

- Build working prototypes/features with immediate impact

AI Chatbot for City Council Meetings

What early signs indicated that there might be a future deficit in the city's budget?

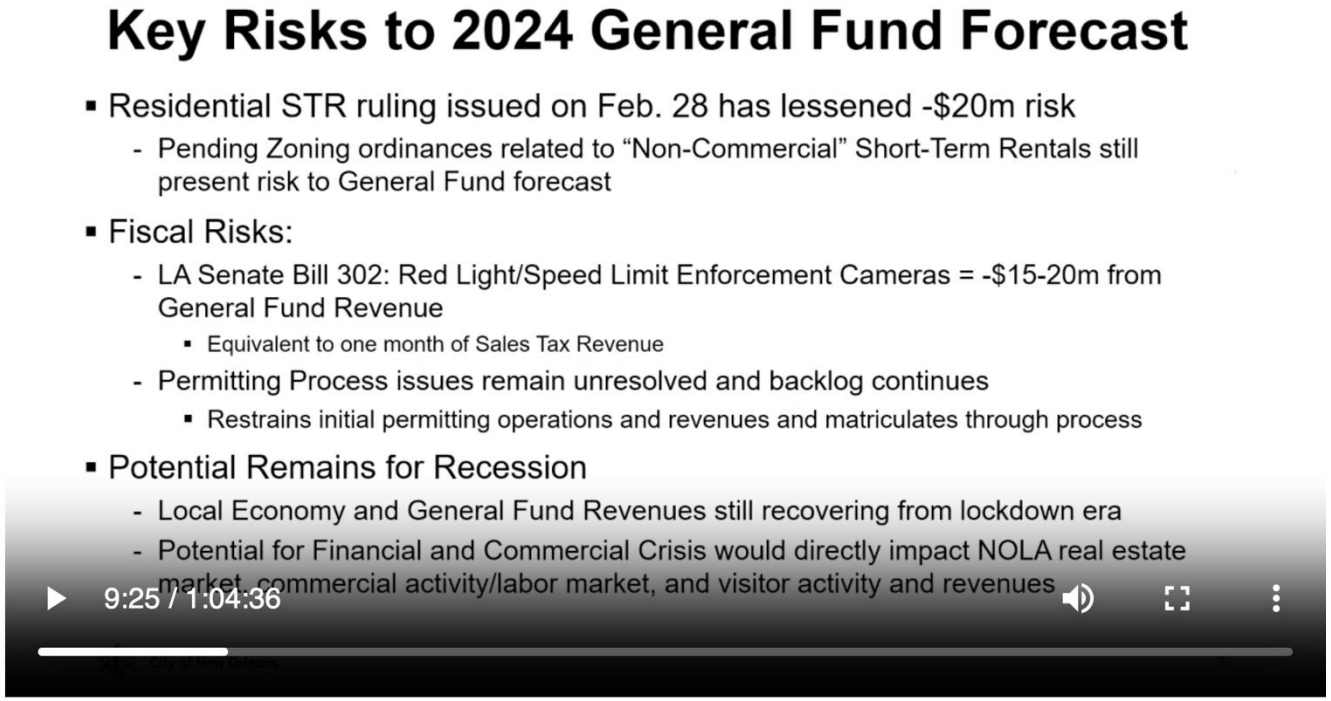
Max number of references: 10

Start Date: 01/19/2024 End Date: 10/29/2025

Ask

Answer:

Early signs of a potential future deficit in projected deficit of $70 million, concerns uncertainties regarding tax revenue chang recession in 2024. Additionally, discussio lack of transparency in the city's financial challenges ahead.



External Funding	$11.4M secured through 9 awards
Collaborations	18 universities 8 industry/civic orgs
Publications	34 in leading venues
Dissemination	30+ presentations 8 workshops 10+ news articles
Supporting AI	$70.5K seed funds to 9 groups from 6 schools
Seminars	14 AI Lunch Seminars 7 Distinguished Lectures
AI Innovation Fellow Program	New shared unit 4 research projects
Education	2 new AI minors 20+ students mentored

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In years 2-3:

- 9 new external awards
- $11.4M ($4.3 to Tulane)

- 10 additional proposals ($43M) submitted, 5 pending

Sample projects

AI for Monitoring Criminal Court

NSF (Smart & Connected Communities): $1.5M, 3 yrs

Culotta (PI), Boyles (SLA), Armstrong (Loyola)

ATOM: Adaptive Taxonomic Modeling of Variability in Judgment and Decision Making

ONR (MURI): $7.5M ($778 Tulane), 5 yrs

Mattei (PI), U of West Florida (prime), IHMC, Michigan Tech, University of Virginia

CHARMED: Conversational Health Agents for Risk & Metabolic Education

NIH (AIM-AHEAD): $800K, 2 yrs

Culotta (PI), Fonseca (SOM), Shi (WSPH)

Tulane prime, with UL-Lafayette, DePaul subs

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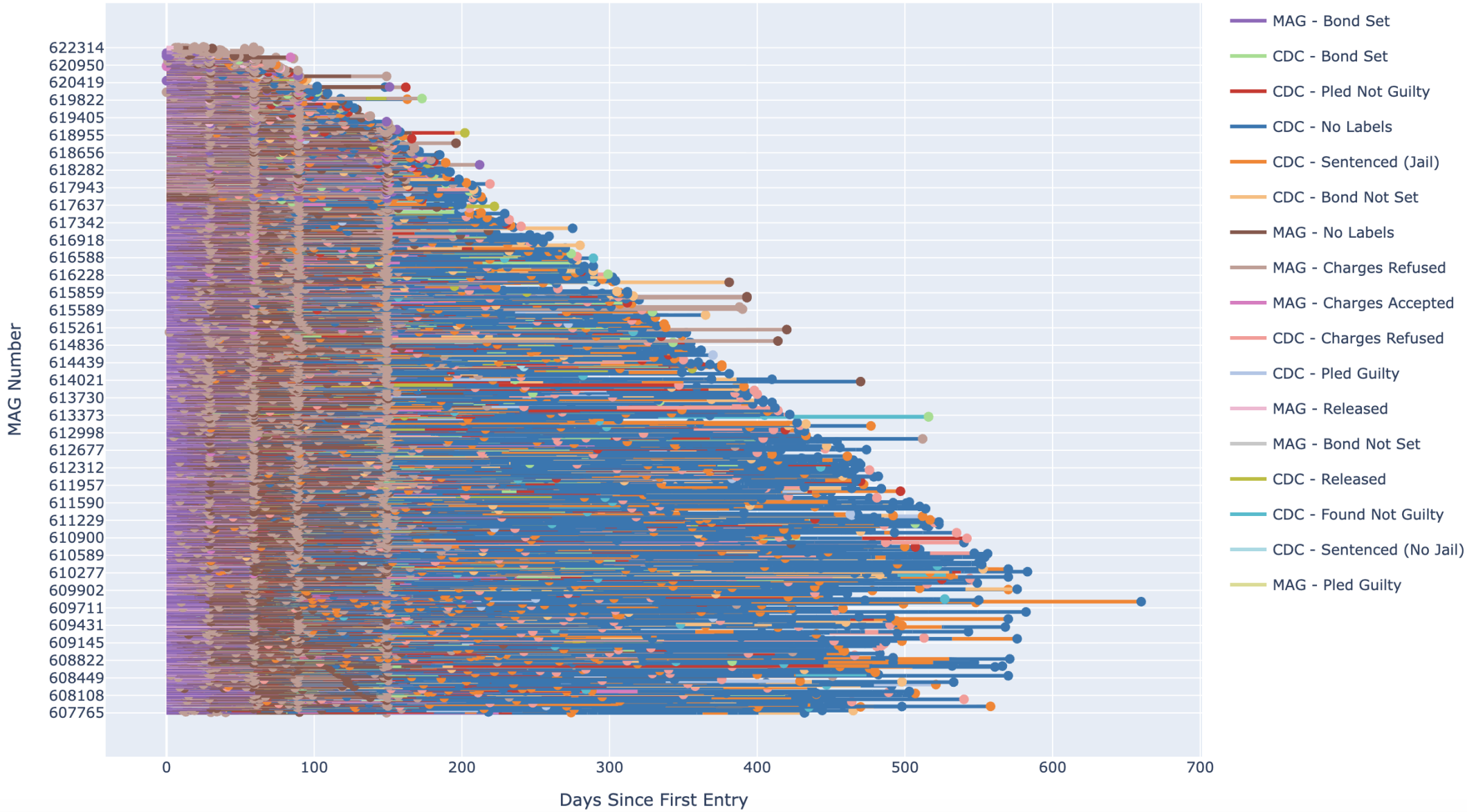
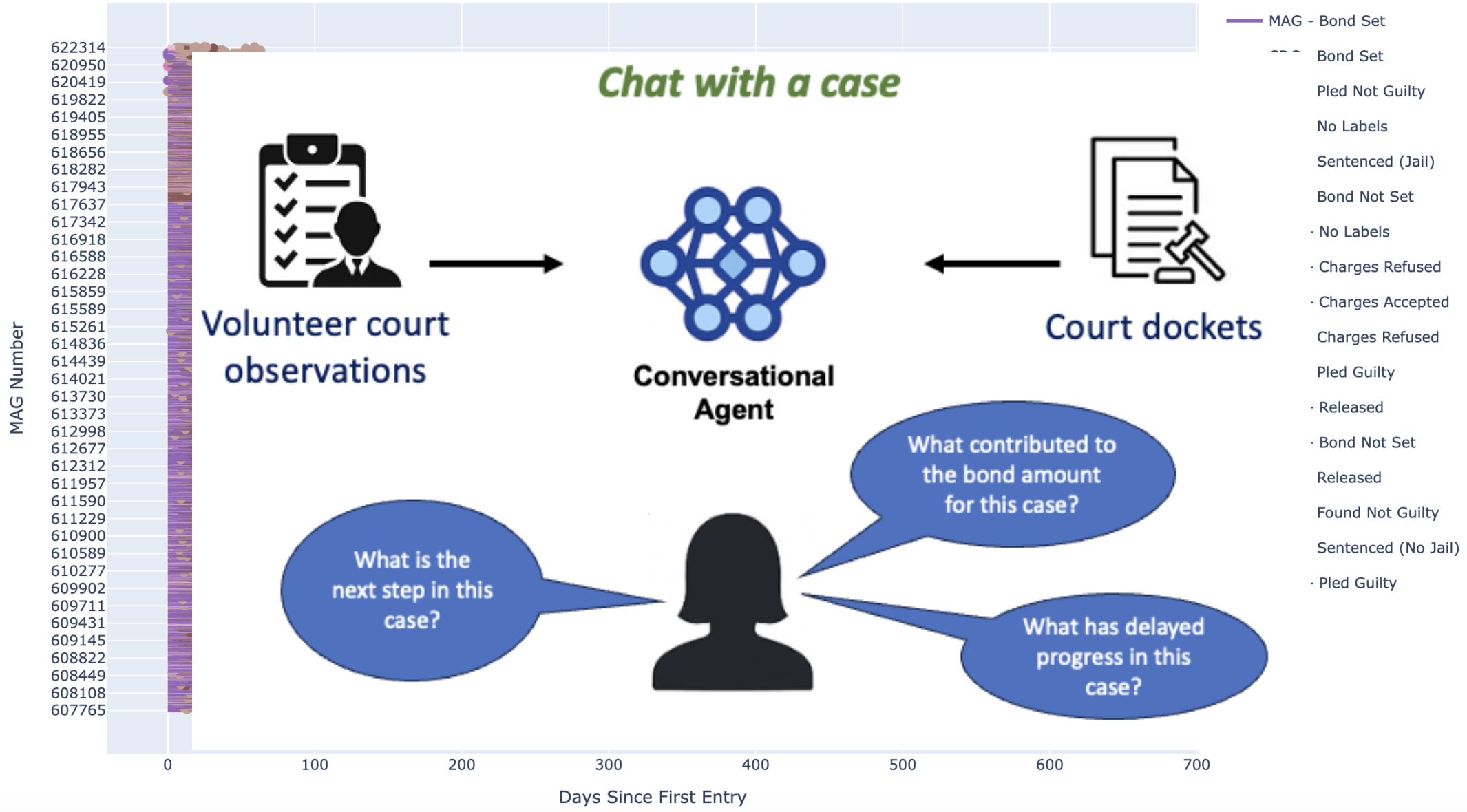


Tulane prime, with UL-Lafayette, DePaul subs



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Conversational Health Agents for Risk & Metabolic Education (CHARMED)

Aron Culotta

Lizheng Shi

Vivian Fonseca, MD

Kristen Thomas, MD

Raju Gottumukkala

Ravi Teja Bhupatiraju

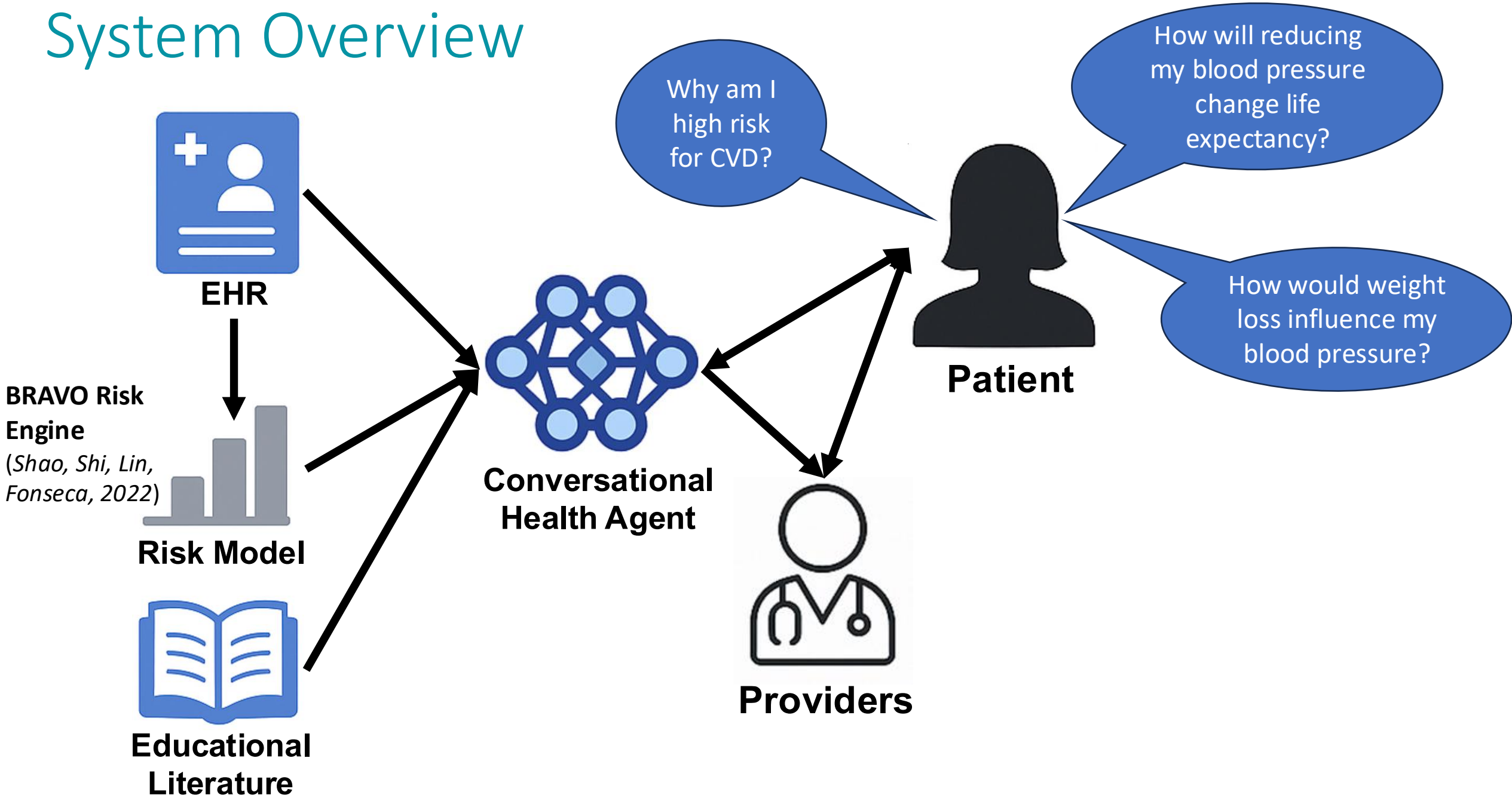
Scott Sittig

Kelly Meilleur-LeBeaud, NP

Conversational **H**ealth **A**gents for **R**isk & **M**etabolic **Ed**ucation (CHARMED)

Goal: To develop and pilot-test a trustworthy, culturally adaptive Conversational Health Agent (**CHA**) designed to deliver personalized education about diabetes-related risks to patients receiving care in Federally Qualified Health Centers and academic clinics.

System Overview



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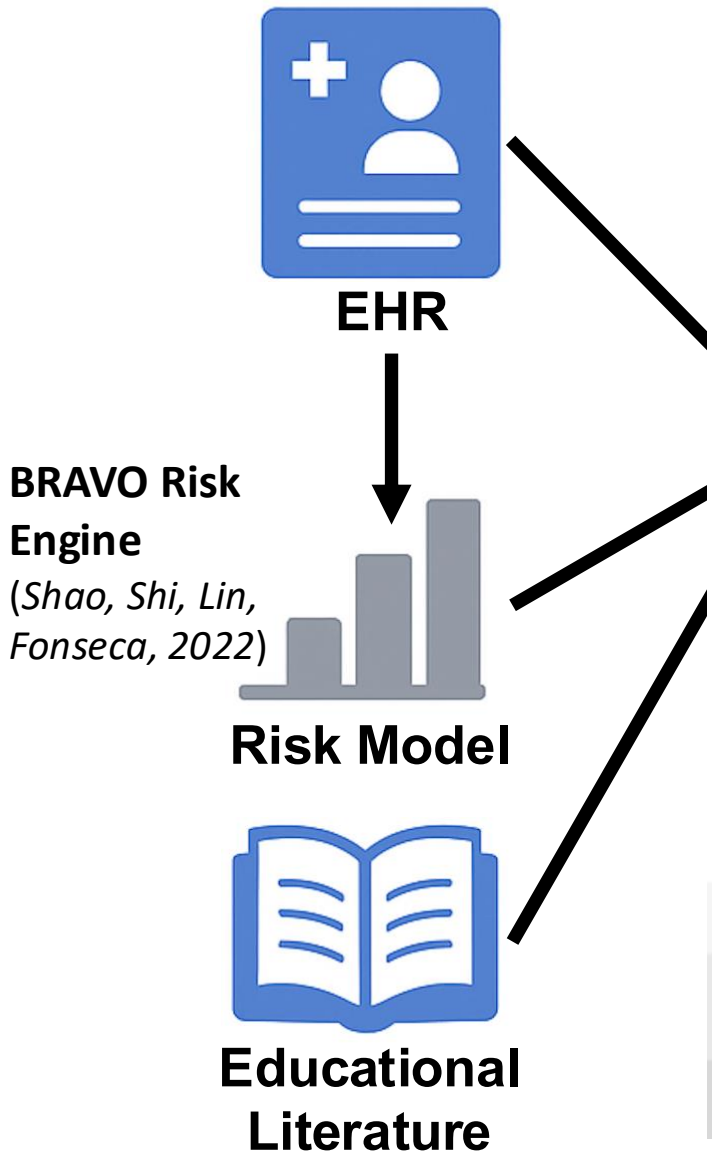

I was just diagnosed with diabetes. What should I know?

charmed-agent AI-generated content may be incorrect

I'm sorry you're going through this — that can feel overwhelming. Here's a clear, short summary of the most important things to know and do right now. What it means

- Find out your diabetes type (type 1, type 2, LADA) — this affects treatment.
- A1C is a blood test that shows average blood sugar over months. Ask what your A1C is and what target your clinician wants for you.

Immediate steps

- Make a follow-up appointment with your clinician. Ask for a

Type your message here...

How will reducing [illegible]od pressure [illegible]ange life [illegible]ectancy?

How would weight loss influence my blood pressure?

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AHeAD

Accessible Healthcare Through AI Augmented Decisions

NSF IUCRC

University of Louisiana Lafayette

UF University of Florida

Georgia Institute of Technology

- Industry-Academic Research Center
- Planning Grant awarded 2025
- CS: Culotta, Hamm, Ding, Hassan, Zheng
- SOM: Fonseca, Crosslin
- WSPH: Shi, Ley

https://nsfahead.org/

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The Illusion of Fairness: Auditing Fairness Interventions with Audit Studies

Disa Sariola, Patrick Button, Aron Culotta, Nicholas Mattei

Tulane University
New Orleans, LA, USA
dsariola@tulane.edu, pbutton@tulane.edu, aronwc@tulane.com, nsmattei@tulane.edu

Association for the Advancement of Artificial Intelligence

Journal of Medical Internet Research jmir.org
The leading peer-reviewed journal for digital medicine and health and health care in the internet age.

J Med Internet Res. 2025 Jan 22;27:e68198. doi: 10.2196/68198

AI Can Be a Powerful Social Innovation for Public Health if Community Engagement Is at the Core

Alessandra N Bazzano [1,2,✉], Andrea Mantsios [3], Nicholas Mattei [2,4], Michael R Kosorok [5,6], Aron Culotta [2,4]

MAGAZINE WINTER 2024 ISSUE / FRONTIERS

MIT Sloan Management Review

Use Open Source for Safer Generative AI Experiments

Commercial AI services can put proprietary data at risk — but there are alternatives.

Aron Culotta and Nicholas Mattei • November 20, 2023

Reading Time: 8 min

Publications

- We have continued to publish in high impact disciplinary venues focused on center topics. Highlights include:
- an article in AAAI ’26 investigating how to reduce AI bias using human audit studies from economics (a top global venue for AI; A* CORE ranking; 232 h-index; acceptance rates typically <20%);
- an article in NAACL’25 (a top natural language processing venue) developing causal inference methods for text analysis (A CORE ranking; ; acceptance rates typically <25%; 126 h-index);
- an article in Marketing Science using language processing to understand how user reviews about neighborhood safety affect the short-term rental market (FT50; ABDC A* ranking; 6.6 5-year impact factor)
- a Brookings report on how community engagement can enhance health resilience in New Orleans;
- an article in the *MIT Sloan Management Review* on how open-source technologies can be used to safely deploy modern large language models;
- an article in the *Journal of Medical Internet Research* on optimizing telehealth for diabetes management (6.9 5-year impact factor; 172 h-index - #1 in Medical Informatics);
- an article in the *American Journal of Health Economics* on discrimination in access to mental health care;
- an article in *RecSys’25* on improving the fairness of recommendation algorithms (CORE A ranking)

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Participatory AI for Community Engagement (PACE 2024) Workshop

HCOMP 2024, October 16 - 19, Pittsburgh, Pennsylvania

Carnegie Mellon University

Gulf Coast AI

A Social at NeurIPS 2023

University of Louisiana Lafayette

Ochsner Health

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Seed funding: 9 projects - 6 schools - $70.5K

LandmarkAI: Recognizing Real Estate Development Threats to Unregistered National Historic Landmarks +	ARCH: Aidoo
Chocó Forest Watch: Supporting Local Conservation in a Biodiversity Hotspot +	SSE: Karubian
Transforming a Traditional Evidence-Based Intervention: AI-Enhanced Support for Young Adults with Substance Use Disorders +	SSW: Hai
CrowdSimAI: An Open-Access Platform for Community-Driven Exploration and Analysis of AI "Crowd Wisdom" in Urban and Environmental Decision-Making +	SSE/Bywater: Demir
Predicting Indicative Signatures of Alzheimer's Disease +	SOM: Nwadiugwu
Human Mobility in the Digital Age: Integrating Multimodal Large Language Models with Traditional Methods to Understand Migration in Online and Offline Communities +	SLA: Jiang
AURA (AI for Urban Resilience & Alerts): GulfGuard +	WSPH: Guest
Stakeholder-Centered Optimization of Predictive Epidemiology using Artificial Intelligence (SCOPE-AI) +	SOM/SSE: Hoerger
AIPTA: A Large Language Model for Evidence-Based Physical Therapy Support +	SSE: Rahman

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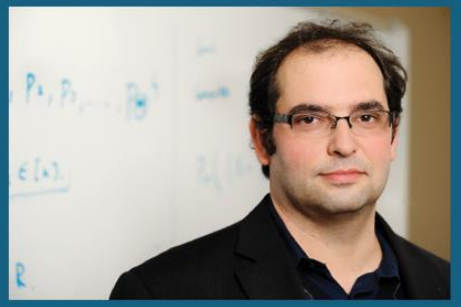
Deep Learning for 3D Scene Modeling & AI-Enhanced Healthcare

Andy Duan
Clemson University

Thursday, August 21st
12:30 pm
Stanley Thomas 316



Better and Less Expensive: Towards Trustworthy and Computationally Efficient AI for Health and Beyond

Vladimir Braverman
Johns Hopkins University

Thursday, October 30th
12:30 pm
Stibbs 203

Nitesh Chawla
Frank M. Freimann Professor of CSE
Notre Dame

Peter Stone
UT-Austin
Dec 2nd

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AI Lunch & Learn Series

Fall 2025

Mon Sep 29
Saad Hassan
Assistant Professor, Computer Science
Studying and Designing Human-AI Systems with and for People with Disabilities and Disability Communities

Mon Oct 20
Ibrahim Demir
Michael A. Fitts Presidential Chair in Environmental Informatics and Artificial Intelligence
Reimagining Learning, Innovation and Engineering Practice in the Age of AI

Mon Oct 27
Emek Erdolu
Visiting Assistant Professor—Architecture and Computation Fellow
Computing for Sociotechnical Research in AI/Robotics

Mon Dec 1
Audrey Hang Hai
Assistant Professor, School of Social Work

16 seminars Spring 24-Spring 26
Speakers from 7 schools

Spring 2025

Wed April 9
Patrick Button (with Chenxi Li)
Economics
Does Racial Concordance Reduce Discrimination in Access to Mental Health Care? Preliminary Evidence from an Audit Correspondence Field Experiment

Mon Feb 3
Nick Lacoste
PhD candidate, Economics
Optimizing Policy Targeting with Machine Learning: Evidence from Pakistani Audits

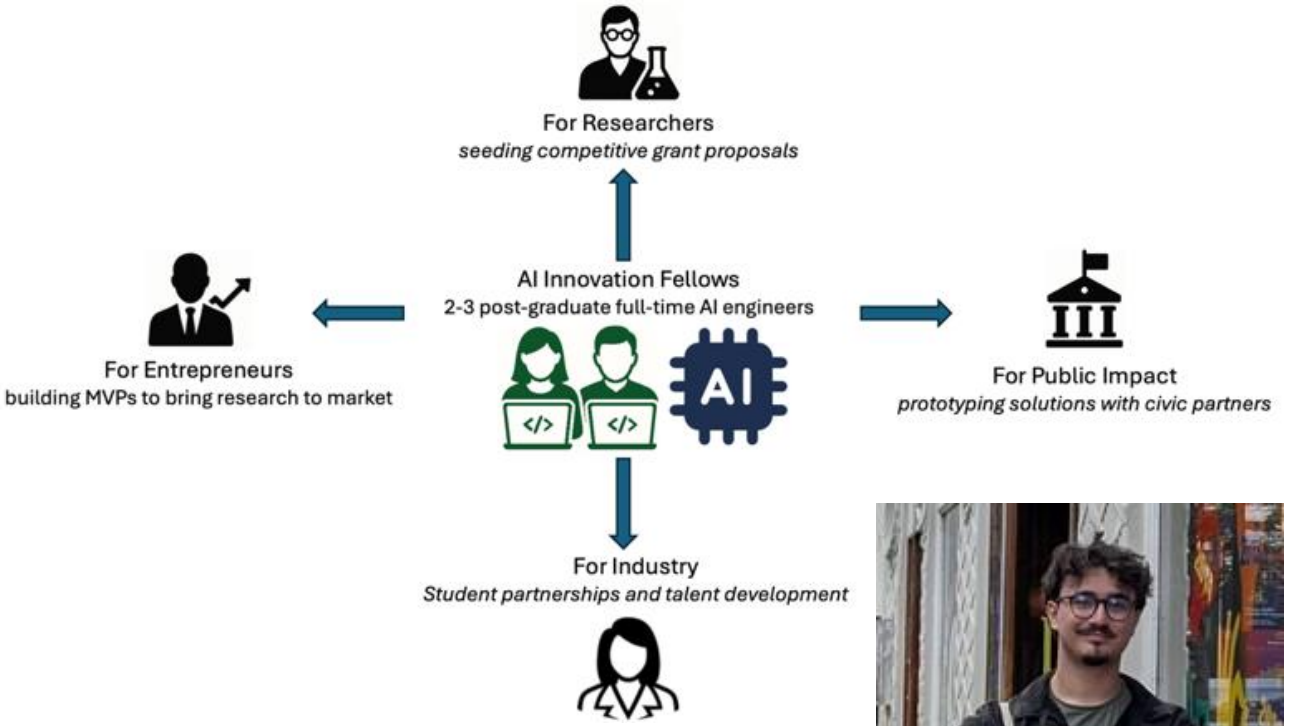
Thurs January 30
Simone Skeen
PhD candidate, Social, Behavioral, and Population Sciences
Human-LLM synergies in qualitative inquiry: modeling subtly discriminatory clinical communications

Thurs January 30
Mehrdad Baratian
PhD candidate, Economics
The Economics of Scientific Disruption: Measuring the Impact of COVID-19 on Biomedical Research

How can we scale AI research more efficiently across Tulane?

- We’re seeing strong researcher interest, but the barriers to using AI remain high.
- PIs have plenty of data, but lack **AI engineering support**
- Great ideas, but no fast way to test and prove them.
- Leaving funding and other opportunities on the table.
- Seed funds for students help, but PIs lack qualified engineers
- PhD students must specialize, but diverse projects require **AI generalists**

Scaling Tulane AI with AI Innovation Fellows



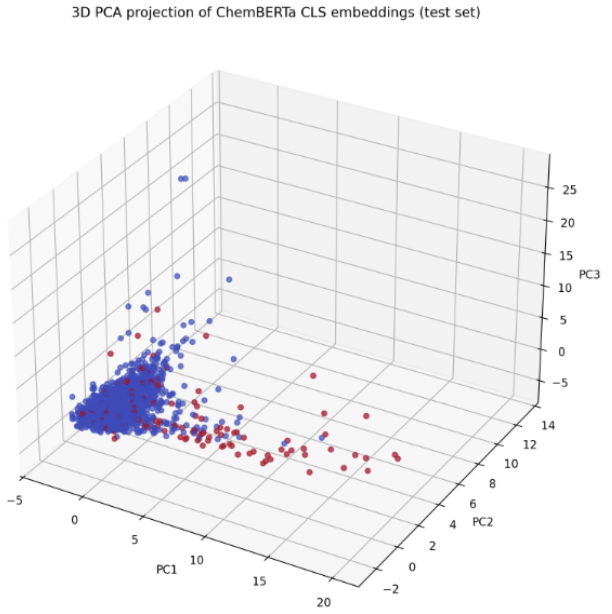
Leonardo Matone

- **Full-time AI engineers** (**staff**) who rotate across groups to jumpstart early-stage projects.
- **Mentored** by Tulane AI faculty
- **Expertise** in machine learning, GenAI, software engineering
- Increase innovation across **research**, **entrepreneurship**, **education**, and **public impact** by building AI prototypes that demonstrate feasibility, spark cross-disciplinary collaboration, and generate new funding opportunities.

Scaling Tulane AI with AI Innovation Fellows

The program launched four projects in Fall'25, beginning with a pilot focus on projects in SSE and TUII:

- **Daniel Strauss (CHEM)**: Developing deep learning models to predict properties of crystals formed from given molecules.
- **Carolyn Bayer (BME)**: Developing computer vision algo rs of preeclampsia from ultrasound images.
- **Brian Sidlauskas (EEBIO)**: Developing computer vision a physical characteristics from biological specimen image
- **Claiborne Christian (TUII)**: Developing a Gen AI tool to commercializable ideas from research proposals.



(b) 3D ChemBERTa PCA

Scaling Tulane AI with AI Innovation Fellows

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- g models to predict properties of
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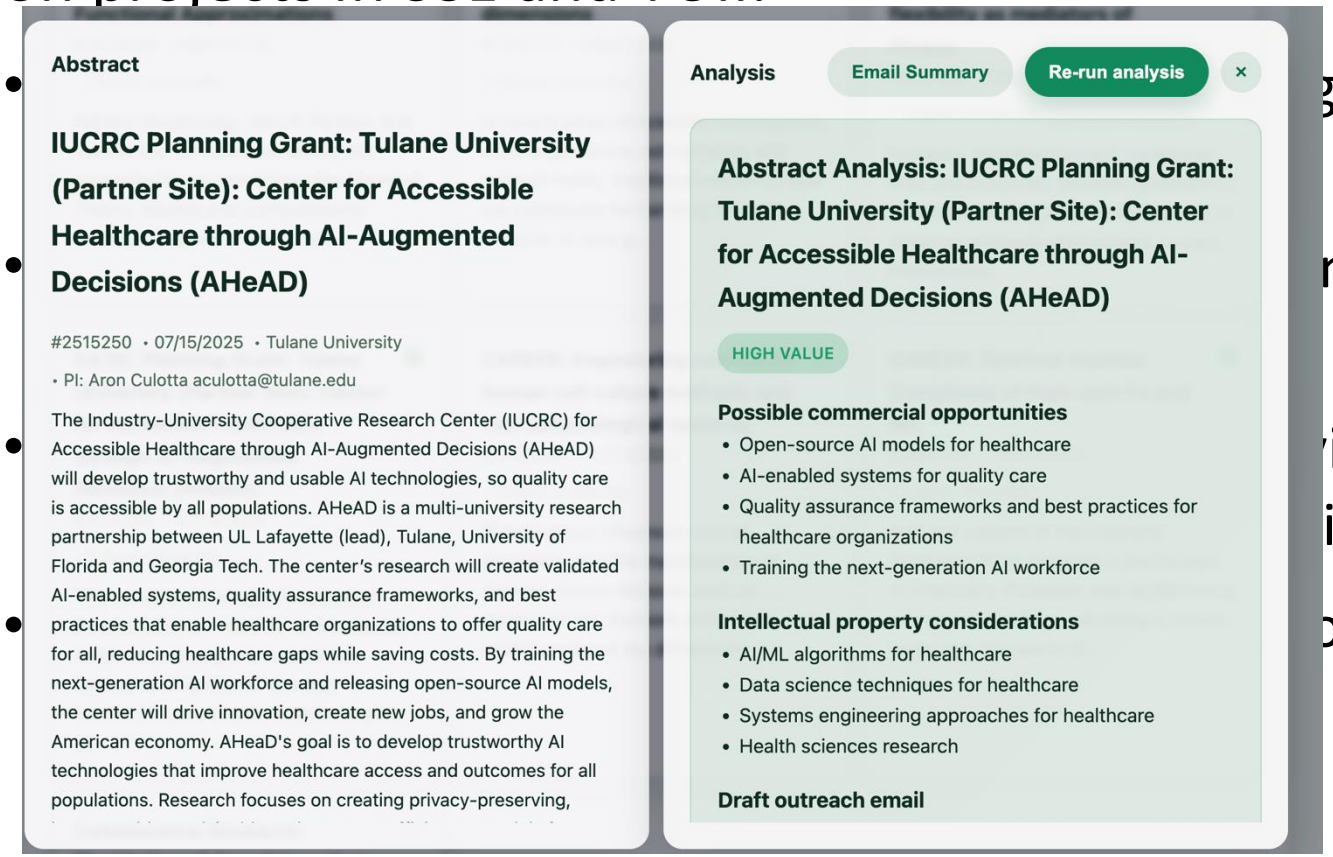
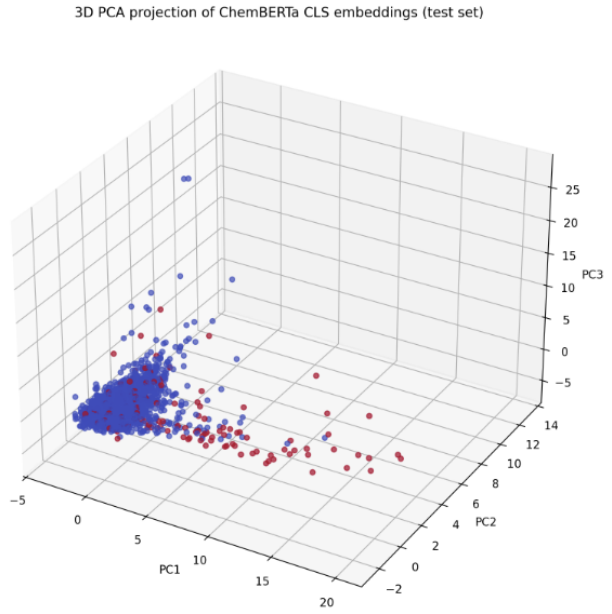
- vision a
- image
- ool to





(b) 3D ChemBERTa PCA

- CS AI Minor: launched F’25
- AI Literacy Minor (w/CAIDS): in progress
- Interdisciplinary courses (Mattei/Isaacson)
- AI Work Group for LA Board of Elementary Secondary Education
- Mentored and supported 20+ undergraduate and graduate students on center-affiliated research projects.
- Dozens of senior capstone / service learning projects with local partners

COURT WATCH NOLA

City of New Orleans

STATE OF LOUISIANA · UNION · JUSTICE · CONFIDENCE · B.E.S.E.

EYE ON SURVEILLANCE

entergy

M.S. Rau
FINE ART • ANTIQUES • JEWELS
SINCE 1912

THE DATA CENTER

Coordinating AI Across Campus

Tulane University
Center for Community-Engaged
Artificial Intelligence

SUPPORTING A CULTURE OF DATA LITERACY
Connolly Alexander Institute for Data Science

TULANE UNIVERSITY
School of Science & Engineering

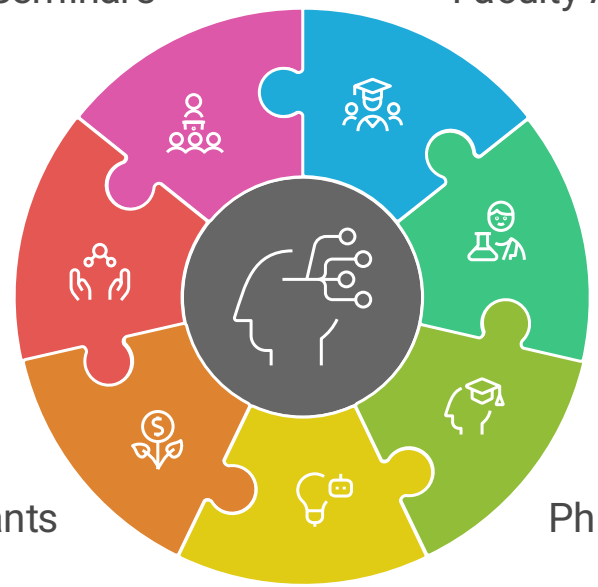
TULANE UNIVERSITY
Celia Scott Weatherhead School of Public Health & Tropical Medicine

TULANE UNIVERSITY
School of Liberal Arts

TULANE UNIVERSITY
School of Medicine

TULANE UNIVERSITY
School of Social Work

TULANE UNIVERSITY
Freeman School of Business



Tulane School of Architecture and Built Environment

TULANE INNOVATION INSTITUTE

TULANE UNIVERSITY
JURIST CENTER for ARTIFICIAL INTELLIGENCE

TULANE UNIVERSITY
Law School

These investments position Tulane for larger federal center-level awards, accelerate clinical and community translation, and ensure we continue to lead on **cross-disciplinary**, **translational**, **human-centered AI**.