

Community on Multimodality: Participatory Action, Service, and Support (COMPASS)

Daphney-Stavroula Zois (PI)¹, Wonhyung Lee (Co-PI)², Charalampos Chelmiss (Co-PI)³

¹Electrical and Computer Engineering Department, ²Computer Science Department, ³School of Social Welfare University at Albany, SUNY

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Vision:

Human services 2.0: enable **discovery** and **delivery** of human services with a click of a button

Community Partners:



Community-identified Problem:

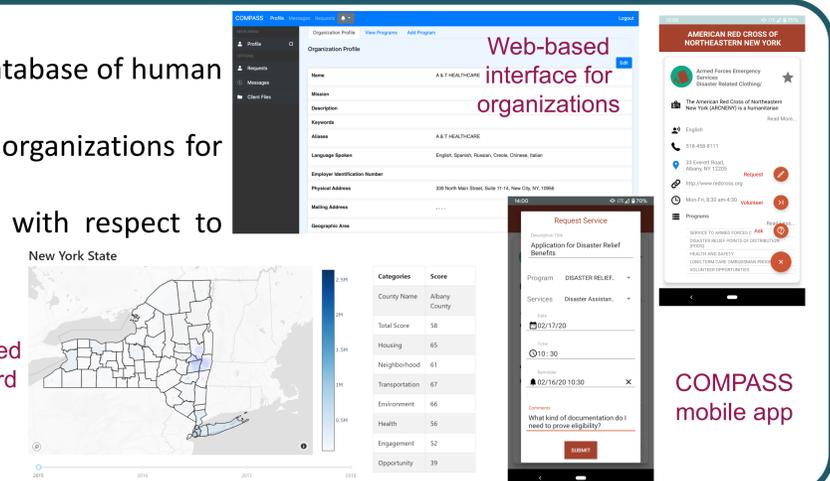
- Simplify** discovery and use of services
- Enable** two-way communication between service seekers and service providers
- Deploy** resources more efficiently

Intellectual Merit:

- Sociotechnical advancements**
 - Uncover** service coordination patterns in non-profit organizations
 - Identify** factors that affect service seekers pathways
 - Instance-wise** decision-making in machine learning
 - Multi-class **hierarchical** classification in machine learning
- Impact on application domains**
 - Health & Wellbeing, Community Planning & Design
 - Streamline** access to human and public services
 - Enable **service coordination** and collective problem solving, and enhance **communication** between service providers and service seekers

Project Update:

- Service coordination patterns of non-profit organizations**
 - 43 interviews with service providers in Albany, NY
 - Multipolar** network structure of human service organizations
 - Problematic** service coordination
- Digital divide in the context of human services**
 - 94 interactive surveys with the public in Albany, NY
 - Shadowing of 14 individuals in Albany, NY
 - Digital divide due to **income, education, culture**
 - Multiple channels** needed to reach targeted populations for service delivery
- COMPASS technological solution**
 - Semi-automatically** constructed comprehensive, up to date database of human service organizations
 - Mobile app** for service seekers and **Web-based interface** for organizations for end-to-end tracking and management of service requests
 - Web-based dashboard** to visualize human service requests with respect to community characteristics
 - Instance-wise decision making in machine learning**
 - On-the-fly **joint feature selection and classification** for each **data instance** individually
 - Decentralized transactional platform for human services**
 - Improve **transparency**, facilitate **accountability** and **oversight**



Broader Impact:

- Societal impact**
 - In alignment with United Nations Sustainable Development Goals 1 (*no poverty*), 2 (*zero hunger*), 3 (*good health and well-being*), 10 (*reducing inequality*), and 11 (*sustainable cities and communities*)
 - Prepare communities to withstand emergencies (e.g., pandemics)
- Who will care/benefit from project outcomes?**
 - Service providers and service seekers
 - Federal/local government(s)

Sustainable Community Impact:

- Technology to streamline discovery and delivery of human services
 - Mobile app for service seekers
 - Web-based interface for organizations
 - Semi-automated Web data acquisition engine
 - Cloud-hosted repository
 - Web-based dashboard
 - Decentralized transactional platform
 - API and documentation
- Insights on service coordination and needs of service seekers

Next Steps:

- Computational approach to predict service seeker's goal**
 - Analyze clients service pathways and design appropriate features for machine learning models
- Recommendation framework to maximize probability of meeting service seeker's goal**
 - Identify time-efficient pathways and adaptively recommend milestones
- Community-driven mobile app enhancement**
 - Complete community outreach (Albany, NY & Las Vegas, NV) to collect feedback and analyze findings

