

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

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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

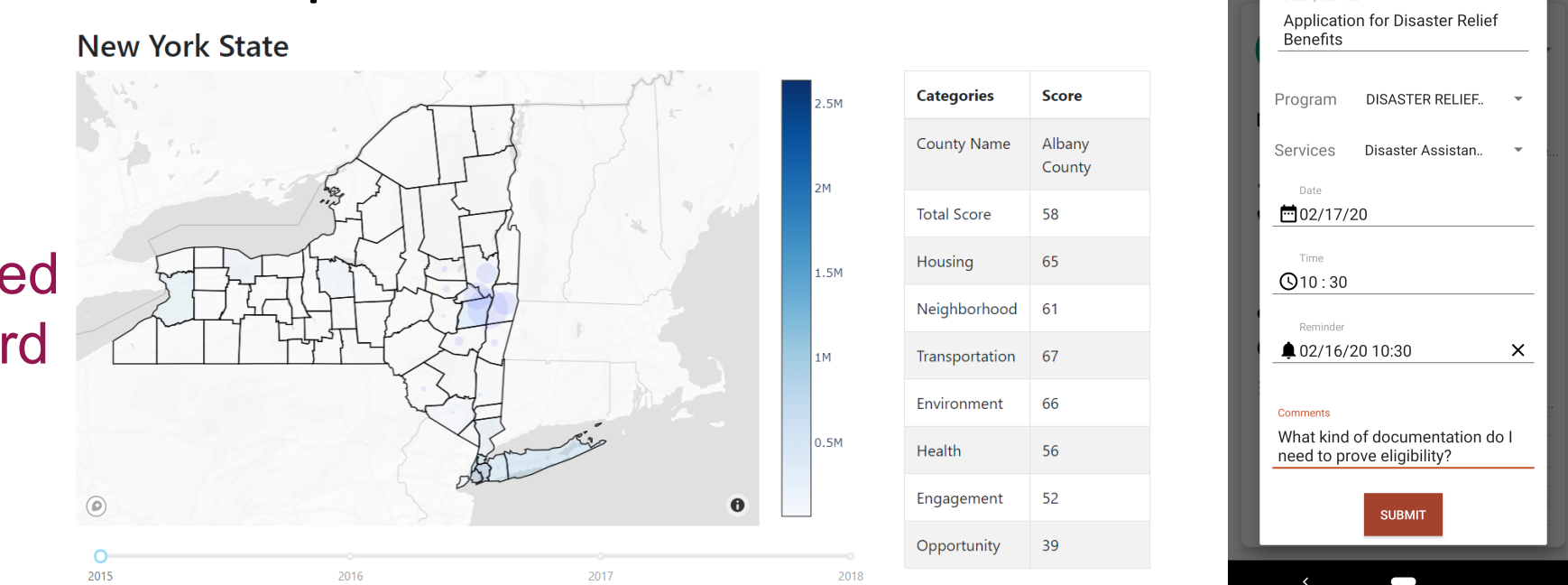
## Intellectual Merit:

- 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**

Web-based dashboard



## 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

