Human-AI Teaming for Flood Evacuation Decision Making

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Community Identified Problems

- During flooding events, coastal residents required mass evacuation, shelters, and other major emergency transportation services in an area where such services are scarce
- The Public lacks access to real-time flood evacuation information, which limits their understanding of flooding impact
- Flood informational needs of the public are different from the needs of emergency managers and evacuation planners

Flood Evacuation Tool

Intellectual Merit

- Co-create a pilot solution for flood evacuation decision making
- Integrate systems thinking, human–machine engagement, training, and AI-driven decision making
- Identify social and technical barriers and individual motivations to explain how stakeholders and volunteers interact with the Flood Evacuation Planning Tool

Project Activities To Date

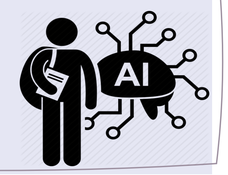
- Co-created a Flood Evacuation Planning Tool to predict road flooding and at-risk transportation networks
- Trained two graduate students in Computer Science and Disaster and Technology Communication
- Conducted interviews with CERT volunteers and community stakeholders to understand social and technical barriers and individual motivations for interacting with the tool

Broader Impacts

- Involving stakeholders/users in tool development positions us to write a community-needs-centered S&CC IRG proposal.
- Including under-represented students/faculty from multiple institutions has broadened our perspective, and this value will be imbedded in our S&CC IRG proposal

Next Steps

- Update Machine Learning algorithms for better prediction
- Integrate USGS river data and NWS API data
- Compute flooded roads, calculate length, and evacuation rerouting scheme.
- Conduct user studies to improve the usability and flexibility of the prototype
- Write and submit IRG proposal!



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