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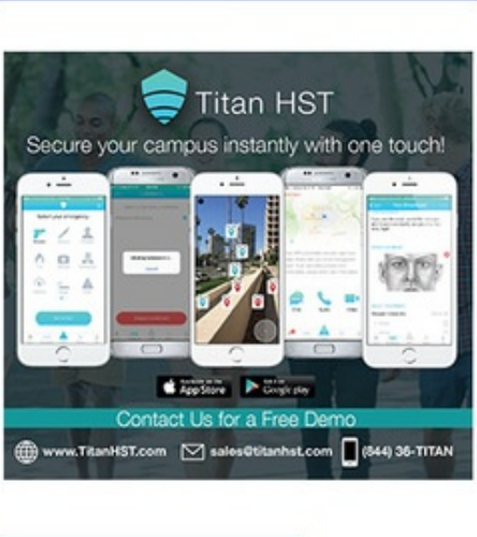
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Predicting Catastrophic Flooding With AI

EM WEEKLY'S PODCAST
EP 50 Predicting Catastrophic Flooding With Pioneering AI
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[IBRAHIM DEMIR] So, our goal with this flood AI is to– can we create an intelligent system, an artificial intelligence system to better communicate this information? As if you are talking to a flood expert.

[TODD DEVOE] Hi, and welcome to the 50th episode of EM Weekly. It has been an amazing journey to go through this process since we started about a year ago. It's been a lot of fun. The guests that I got to meet has been just amazing. And to me, you guys, like, the IAEM Conference, and to other speaking events that I've been to, to meet people who listen to the podcast and talk about what's going on, and getting your input in what we can do better, and also what kinds of guests and topics we can discuss. We have the Facebook page and group, and it's really been a lot of fun to engage with people on the Facebook group. If you guys are interested in joining us on Facebook and finance the EM Weekly group, you know, it's been great sharing those ideas and chatting with everybody on the EM Weekly group or page.

We also do Monday Live, on the EM Weekly page. So if you guys want to listen to what we're talking about, and it just kind of gives some insights of what's going on for the week, it's a fun thing to do. We're about to make a huge– a few huge announcements, actually, in the next few weeks. One is about a new program in the website format that we're changing, and Bryan's been working really hard on that, doing a really great job at the backend, and we're almost ready to announce what we'll do with that, so stay tuned.

And if you're on our Facebook group, we're going to make a major announcement first there, and then we'll bring it out here to everybody else, and it's a collaboration with a major California university in Orange County, and we're working with one of our listeners, Susan. So, she brought this kind of idea up, and we're revamping some stuff over there. We're not quite ready to announce it, almost there. And when we do, you guys will– we'll announce it here on EM Weekly. And again, we're going to do the Facebook group first and talk about it there, and chat amongst the members over there, to make it a great program. So, if you're not part of the group yet, it's time to join, so you can get some more insights on what's going on.

We are also excited to add a few new contributors to the blog. If you haven't checked the blog yet, it's www.emweekly.com. And we have a couple of new contributors over there, we're bringing another one on board, and we're– you know, really trying to expand what we're doing over there, different inputs and ideas. So, if you're ever interested in writing, reach out to us, and we would love to talk about what you guys can do, and maybe we'll bring you on board.

Wow, I'm really excited to have Ibrahim Demir, he's a professor at the University of Iowa, and they've been doing some really, really great work on flooding. And they've come up with– it's called the "Flood AI Alpha," or the Artificial Intelligence for flooding, and they have some really cool products there, I've been checking out their website at the UIHI Lab, and it's exciting stuff there. And I think the research they're doing– I shouldn't say I think, I know, that the research they're doing there is going to impact emergency management in a positive way, where it's going to give us more tools, and it's also going to give tools to the public, and it's going to save lives. So, sir, welcome to EM Weekly, and how are you doing today?

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[IBRAHIM DEMIR] Fine, thank you. Thank you, Todd, thank you for this opportunity to provide some information about our research and some recent projects. Thank you.

[TODD DEVOE] Sure. So, tell me a little bit about yourself and the research that you're doing, and how you got into it.

[IBRAHIM DEMIR] So, my name is Ibrahim Demir, I am a professor at the University of Iowa, in the Civil and Environmental Engineering Department. I'm normally trained, mostly, on environmental informatics. So, that is a new field, leading with the latest technologies in computer science and computer engineering, and its applications on environmental science. And for the last seven years, I'm (inaudible) on disaster-related data and information. I actually started, I can say, I started in 2008. We had a very, very severe flooding in Iowa, in the state of Iowa. It was the worst disaster in the state's history, often called "Iowa's Katrina."

So, after the 2008 flood in Iowa, the state of Iowa established the Iowa Flood Center, at the University of Iowa. In 2009, I (inaudible) flood, and I was hired as a post-doctoral researcher in 2010, almost like a year of establishing the Iowa Flood Center. And the main functionality of the Flood Center is providing (inaudible), leading with floods, especially doing research on flooding, and also, creating a monitoring network for Iowa. For the last six years, Iowa Flood Center has deployed over 250 stream centers and operating dams in Iowa, complementary to USGS Centers. It's a very big effort, and one of the densest networks in the nation, and that is– right now, is in operation. And providing real-time data every 15 minutes, accessible to lots of their base systems.

And another functionality, another mission of the flood center, is creating a flood forecast model for the state, a very high resolution and advanced model for improving the forecast of flooding. And another mission is on communicating this information. And my role here, (inaudible) to this mission. I started at the Iowa Flood Center as a researcher to develop Iowa flood information system. And Iowa flood information system is up and running for the last six years and serving the public of Iowa. And we had over 300,000 unique users accepting the system. It's widely used by the local media in newspapers, lots of local websites, and also TV stations, using Iowa Flood Information System in their real-time reporting, sometimes.

[TODD DEVOE] That's great.

[IBRAHIM DEMIR] Yeah, yeah. And the mission in communicating information is very critical. It's one of the key challenges in emergency managements, to deliver timely and relevant information to the public and decision-makers. So, the flood center has started there, with all these efforts, and it's a continuous effort going on right now, for the last six years.

[TODD DEVOE] Awesome right there. You know, I've been doing some research before I came and talked to you here, and I found that between 1975 and 2000, there were 170,000 worldwide deaths due to floods. And then in the United States, in 2016, there were 234 deaths due to floods. That's about 84 deaths a year, on average. And according to the Flood Safety Institute, 50% of those deaths were vehicle-related, and the flash flood is the leading weather-related cause of death in the United States.

I couldn't find any other information regarding Canada or Mexico, but that's the information I found, just doing my quick research on that. And so, you know, you're talking about the flood that occurred, and we talk about deaths too, but it's not just deaths, it's also economic issues as well. And in California, even though we're pretty much a desert down here, in Southern California, when we do have rains, we have floods. And I remember when I was working in the field, responding to multiple people getting pulled into the rivers and pulling them out of the river. You know, every year here in California, in Southern California, the Los Angeles area, there's always a few deaths due to the floods.

So, how does your artificial intelligence, how would that– first of all, how can we scale that to where it's not just in Iowa, where it's worldwide, or at least, you know. And how does that work for us, as responders and emergency managers, to get information into our EOCs and into our flood control areas and stuff like that? How would that work?

[IBRAHIM DEMIR] So, let me give you some background on how we get there, to the Flood Information System, from the Flood Information System to the Flood AI, and where we are going right now in the research. So, currently, my research is mostly on information communication, in (inaudible), data integration, and cyber systems, mostly dealing with the disasters. Especially flooding in Iowa. We also deal with water quality and many other problems, as a researcher and the faculty myself. But one of the challenges in data communication is the integration of all this data and resources.

So, when you think about flooding, all of this information, they're coming from sensors, radars, satellites, and even from forecast models. All public information. But still, if you want to make a decision, if you want to learn something about what's going on right now, you have to almost visit 10 or 20 different websites, and most of them are not even for public, they're mostly designed for researchers, technical people, with lots of technical jargon and many other information together. It's not fully user-friendly, and also, it's not really integrated.

So, the idea started– for developing that flood information system is, how we can get this all this information, relevant and timely information together, into one (inaudible) sharp system? So, we started to develop this system, integrating resources, data, from 20 blogs, agencies, institutions, and resources and tried to create a unified experience for the public. And as you go along, for the last six years, we have more and more data resources, functionalities. We came out of the most (inaudible) system in the nation to communicate flood-related data and information.

So, we have flood (inaudible) maps; we have rainfall forecast, rainfall conditions, we have four forecast models, and (inaudible) all information together into this single system. But still– so you're always welcome into this experience, for the public, for the decision makers, even though we have hundreds of different functionalities, data layers, and map layers in the system, they're always looking for ways to improve this experience, and how we can make it easier for the public, especially for seniors or not technical people, to access this information.

And the Flood AI project started from that vision. So, we are looking at ways to, ok, all this information, all this data and layers are there, in a single system, but still', you need to be able to access a desktop or laptop to access this database system, go through all these data layers, map, and you have to, somehow, interpret some of this information, and understand– just get its knowledge. So, our goal with this flood AI is to– can we create an intelligent system, an artificial intelligence system to better communicate this information? As if you are talking to a flood expert.

So, we receive lots of calls and emails during heavy flood season, after heavy rainfall events, at the flood centers. So, our researchers and staff try to explain this and provide this information by phone, by email, and they have these lots of different database systems and cyber systems to communicate this information. But still, talking to an expert, talking to a real person, is a different experience. Because you can ask very detailed questions, a very specific question, and get an instant answer.

So, the vision is, can we create a system like this that can answer all these questions, most of these critical questions about flooding? And we can really serve tons of people at the same time. Millions of people at the same time. So the idea is how we can scale it. We cannot really have hundreds of researchers on the phone, right? Besides doing research, teaching, and educating the workforce. But can we communicate, and can we create a unique expertise like this, on the systems?

So, we started this project for the last– I think it started three years ago, on several different integrations, so you create the unique knowledge base, with lots of questions that you can get instant answers. It's not just like a basic question and answer system; it's mostly about, everything is fully integrated. So you can ask questions, "What's the flood condition for Iowa State 5 p.m. tomorrow?" So, this unique question can be easily understood by the system, and divided into components: ok, this question includes a time component, a location component, and lots of context about the flooding. So, the system automatically understands the intent of the question; which community, which location you're asking about, what's the time frame you are interested, and then use the direct answer.

So, the system started with this vision, and we are currently running the system in many platforms, so (inaudible) greatest intelligence system. You can easily integrate it to many other communications platforms. So, right now, the system is running on, for example, Skype. You can ask a question through Skype, you ask through Facebook Messenger, Microsoft Cortana, Google Assistant, and we have integration with smart devices at home. So you can talk to Google Home, Eco, or many of those smart devices. And then you wake up and you're walking around in the kitchen, you can say, "Ok, which location received the maximum rainfall in Iowa at 5 p.m. yesterday?" So you can get this kind of quick and very direct answer from the system.

So, this is the vision; this is the process. The idea here is to make information access easy and painless for the public, for decision-makers, as if they are talking to experts, flood experts.

[TODD DEVOE] That's great. Where does the data come from? I mean, do you guys have sensors out there, or is it satellite? Where do you guys receive this information regarding data and what areas are going to flood?

[IBRAHIM DEMIR] Yes. So, there are lot of different data resources integrated to the system. On the sensor level, we have over 400 sensors integrated to the system that are measuring the water levels in rivers. So, 200 city sensors deployed by Iowa Flood Center. We also integrated 100+ city sensors from USGS, Corp Engineers, and National Weather Service. These are all providing real-time data from the streams. So, what's the water level for any location of these 400 points?

And then, we have integrated several forecast models. Iowa Flood Center itself runs three separate models, in real-time, that is providing forecast for our 400 towns and locations. So, we are publishing in only around 200 locations, you know, the system. There we have sensors; there we have communities. So, we have four forecast models integrated from Iowa Flood Center models, but also, from Nation Weather Service, or other (inaudible) model. So, we can easily compare different forecasts, how each agency and institute is thinking about the upcoming floods. So, this is another level of information.

And then we have information from rainfall forecast and conditions from Nation Weather Service, or any other resources that provide this data. So, I think we have over 20+ data channels that we integrate through this system. But one of the challenges that actually comes from there– so, in the U.S., there are lots of agencies, there are lots of institutions responsible for some parts of the flooding.

[TODD DEVOE] Right.

[IBRAHIM DEMIR] The forecast model issued by Nation Weather Service, there are agencies dealing with river monitoring. So, I think it's challenging in terms of the confusion of responsibility. (inaudible) engineers deal, for example, with river waters. So, each agency and institute– I mean, the federal agency deals with part of the flooding. So, one challenge is we don't really have a unified responsibility along the flooding. And if you see reports, flooding is not really one of the top priorities, even though the damage, both economic and indirect damage is very high, compared to most of the other disasters.

[TODD DEVOE] Right. That's funny you say that, because you know, around here, in California, we talk about the earthquake, the earthquake, the earthquake; but I think we've had more damage– again, I shouldn't say think, I know we've had more damage and more death caused by flooding every time it rains, than we have had from the earthquakes. And we tend not to think about it unless it's affecting our area. You know, one of the things we have here in California, obviously, associated with the rains, is also the mudflows, and also the kind of stuff that is associated with it, along the same lines as what you're talking about.

Now, could your model, or did you model find and predict what was happening in Houston during the hurricane.

[TODD DEVOE] Could your model, or did your model, find and predict what was happening in Houston during the hurricane?

EM Weekly
Episode 50
Ibrahim Demir
Pioneering AI

[IBRAHIM DEMIR] So, normally, at the Iowa Flood Center, all of our data and interest is mostly within Iowa. We have researchers at the Civil and Environmental Engineering Department working on national, regional, or global flood models. But my interest, specifically, is about this integration and communication, and the flood center mostly focuses on the flooding in Iowa. So, I cannot really tell much.

But I've seen many good results, and the forecasting model within Iowa has strong results in some locations, and then not that good results for some locations. Because it's really not a solved problem. The model is really a challenging problem. And if you think about federal agencies, there's a real person sitting behind the computer and making these kinds of decisions. Not just a model or computer decides the forecast, but also a person, experienced about the area, the water shed, or the community. And he studies the flood, and then thinks about all the model output, and then makes a decision about issuing a warning. It's not just a computer.

Our goal is to automate it, to make a unique satellite maybe, computer system, evaluating all these models, evaluating all this information and giving a decision. But it still takes time to go there and reach that point. But in terms of the scalability, one of the questions that you asked earlier about, can we scale this system? Can we enable this system in other areas, like Texas or Florida, or in other places that we experience a lot of flooding?

So, I've seen efforts, especially in modeling. In nation models, there are other efforts going on in terms of (inaudible) systems. But Iowa is one of the first examples, and (inaudible) information system is one of the most comprehensive systems in the nation, and we have seen some other areas trying to create systems like this, and we are currently also working with South Dakota and many other areas, to help them create a system like Iowa Flood Information System.

So, this is the first step. You have to bring all this information together into a single system, and then you just start thinking of this kind of future, envisioning systems like the Flood AI after we have all this information together. So, this is the next step, even for us. So, after all these years of efforts, we integrate all this data and information together, and now we are ready to go forward on creating an intelligent system for flooding. And Flood AI is in the making, and hopefully, we are planning to launch an early beta for the public by March 2018, before the season.

[TODD DEVOE] Oh, wow. That's great.

[IBRAHIM DEMIR]

[TODD DEVOE] So, how could we, as emergency managers, how can we support you? What can we do to help you get this– more visibility in our world, and also to get that funding that you need from organizations to make it nationwide?

[IBRAHIM DEMIR] I mean, definitely, the interest especially in this area, is because it's (inaudible) awareness. And we are working hard on improving the awareness (inaudible) public. How they perceive disasters and flooding, the importance of the flooding, the flood forecast, monitoring. These are all– lots of efforts going on together. So you help people do monitoring, more sensors, low cost, and affordable, and also portable sensors that you can improve the monitoring. Because you need monitoring of the rivers everywhere to improve our model, to improve your forecast system, and also to improve our warning and alarm systems, right?

And then, on the second level, we definitely need efforts on improving our model, forecast, and running this thing nationwide. And also, we need an effort to reach the people and communicate this information better. So, the flood AI and many other systems are going in that process, but the main thing is, we need to connect better with all these agencies, like FEMA, (inaudible) and others. We want to make sure that we have all these tools available for them. There are researchers that are working on the frontier of this research. And then I presented systems like Flood AI or some of the systems that we developed, and most of the federal agencies or institutions think, "Ok, this is almost like, 5 or 10 years ahead of us, we can do what we are planning."

So definitely, we are working– the faculty research is working ahead of the schedule, but we are also helping the state agencies to enable these systems right now and make this available. Because these are all systems that you use in your daily life, especially for other tasks, like Apple Siri, or many other products, that help you organize your life and bring information to you. Why don't we start doing that for flooding? Why don't we do that for disasters?

And we are trying to reach emergency managers, responders, to help them use these systems in real-time. And the research going on right now in our group is, how can we communicate this information through augmented reality? Or holograms? So, as you are in the field, as a first responder, looking for people to rescue or reach locations, as you look around to buildings and infrastructure, we can provide this real-time information overlaid on top of that real-world information. So, we can use a see-through display, like a hollow lens or a similar device. You can look around and see which building has the most people, or most– maybe damage expected in the next 24 hours.

So, we can bring you some of the demographics and economic analysis directly to your eyes as you are in the field working through these kinds of emergencies. So, as an emergency responder, dealing maybe with a flood and response right now, after a heavy rainfall or major disaster. So, we can bring this information to your eyes, to emergency personnel that work in the field. So, another area that we can improve. And definitely, this requires an integration and collaboration with all these agencies.

We have (inaudible) proof of concept running for Iowa, and available, and all these prototypes that are running in these kinds of see-through displays, augmented reality, virtual reality, all these options that are available, and we have many prototypes and systems that we can present and show this vision, and how we can improve decision-making, how we can improve the flood recovery and response in real-time, as you are working hard on the field.

[TODD DEVOE] Yeah, I was just looking at your Google Glass display that you guys have at the UIHI Lab website, and everybody, you guys need to go check this out. I'll have the website down in the show notes as well, if you guys are looking for it. But they have the Google Glass, the mockup here, and it's really cool. I mean, it's going to give you some good information in real-time. So yeah, I think that Google Glass thing is really kind of cool. And how close is that to being, you know, real?

[IBRAHIM DEMIR] I mean, all these are mockups. Everything here you see are working prototypes. But as a researcher or the faculty myself, I don't have the responsibility or resources to make this operational for the state, for the nation, right? Because I have my responsibility mostly on the research part.

[TODD DEVOE] Right.

[IBRAHIM DEMIR] I receive funding to do the research, to create these kinds of prototypes or divisions, and then I expect the agencies or decision-makers to take this effort and then scale it to the region, or the state, or the nation, right? So, I can help them to definitely make these systems available and use them in real-time. So, the examples that you see here, like the lens. So, we created a holographic experience that you can bring this kind of 3D real-world information, select any scenario. For example, for Iowa Flood Information System, you can select one of five thousand very detailed flood nation maps, flood scenarios. And then you can evaluate the scenario with economic damage.

So, we have– one effort that we did last year was bringing hazards data, the hazard (inaudible) projects by FEMA, that they have flood loss and damage estimation available to these desktop applications

But what we did last year was, we moved all this data, information, and analysis to a database system that we can run in real-time, and in seconds. So, if you select a scenario, a flood scenario for Cedar Rapids, like, a 500 (inaudible) flood, in a second, we can give you flood loss and damage information for the whole city, under that scenario, even for individual buildings. So you can easily see the city under the scenario and understand the expected damage, economic damage, dollar damage for the structure of the building, contents of the building, for the whole city and individual buildings.

So, we can bring this information to your eyes through the see-through display, so when you are in the field, you can easily look around and see individual buildings, and you see this kind of small label pop up on the building and say, "Ok, this building is expected to have $300,000 damage in five hours. And this building expects $5 million; this is $2 million." And you can use this information labeled with the number of people– people with maybe no education. So, you can easily integrate this kind of resilience-type information, how we can see these are the low-income areas, low-education areas, or this is the area where you have more senior people, and they might need more support.

So, you can easily bring these kinds of demographics and economics as well to these kinds of displays, and you can make a better-informed decision integrating all this information together, as you are trying to decide or prioritize resources to the recovery aspect, or the response after.

[TODD DEVOE] That's great, that really is. Like I said before, everybody, you need to check out this website. The information that is on here is really cool. And the tools that are there for people to plan for and to practice flooding, what it would look like, I think it's just dynamic, and we need to get behind this project and support the work that's being done here, because I think this is a game changer for flood response, this is a game changer for saving lives and the economy impact that floods have on our country.

You know, former administrator Craig Fugate is out, going around, looking and talking about floods and the impacts that they have, and obviously, the fact that our insurance programs are being impacted. And I think with this software– this program, I don't want to call software. This entire system can really assist in that planning. And even for city planning. So, for the mitigation of the floods, when you can see what's happening with these models, so this is really great work.

So, I'm looking here, also, at your website, and I see that you've won a few awards from some notable organizations. Microsoft, specifically, is the big one that I'm seeing here. And that means that there's definitely some interest behind your work. You know, are you looking to integrating or working with other tech companies, maybe Google, or Microsoft, or anybody else who can come together and actually put this product on the marketplace?

[IBRAHIM DEMIR] I mean, we have received lots of support from tech companies, mostly on the research side. So, they are supporting our research, especially working on the disaster fields, and also bringing AI, artificial intelligence systems, and using this (inaudible) resources. So, most of the support is in the hardware level, like, NVidia and others providing GPUs and other systems. And then Microsoft, Google, and others a providing mostly funding around using these cloud resources.

But this (inaudible) mostly on developing this vision, developing this prototype. So, this is a very limited funding, for a year or two, and then you work on your research, you publish your results with their support, and this is mostly about creating a vision, creating a prototype or a state-of-the-art system in the prototype stage. And then, they are not marching to supporting this indefinitely, for a whole state or a nation, right?

They're interested in us to use their resources, to use their technology, to bring a system to the life stage. But still, they're commercial companies, and they want you to pay for the usage of their resources, mostly for clouds, or other technologies. But they are very interested to help us in building this vision, in building this research. And as I said, we worked with Amazon, Google, and Microsoft for the cloud resources, and other companies, you can see on our website.

We really appreciate their support to help us create this vision and all these prototypes, but the next step is working with state officials, and the federal government, on creating this system for a large-scale, for the nation, for the states, that needs this kind of information, or the emergency managers, that need this information in real time.

[TODD DEVOE] Have you reached out to FEMA?

[IBRAHIM DEMIR] So, they are definitely– we are connected with all these agencies, especially the Iowa Flood Center. But still, we are definitely presenting all our results, all our research to them. And mostly, it's going slow, with the current budget situations, or the current challenges. But definitely, we are looking into ways to make this system available to the public, researchers, and emergency managers as much as possible.

But the communications, generally, flow and take a long time, especially going through these kind of large-scale agencies, and then going through this kind of big process. Especially bringing a system to nationwide, or even a state-wide level, is not easy. And it's a big decision for them as well. So, we are looking for ways to collaborate with them.

There are small, probably, opportunities around. So, some of them have grants and proposals, that you work on this kind of profile, but even though these grants are also about creating the prototype. It's not about creating a live and operational system, because (inaudible) funding, opportunities for you to present your work to them and then create a small prototype, maybe some system that they can see the vision. But the next step still requires a large-scale integration. We are happy with the (inaudible) University of Iowa, Iowa Flood Center. We definitely are interested to help them to bring this system to the nation level, national level. It's not just about Iowa. We are here to help other states as well.

I mean, we have some interesting stories. Like, after the disasters in Texas and Florida, we've had lots of faculty that has relatives or friends in Texas or in Florida. So, we really didn't have a chance to look into the situation in a system like (inaudible). So, we couldn't really find a good source, a good website, or a good system that we can see or get the same experience from (inaudible), for Texas or for Florida. Because it really is challenging.

We have seen a good response from the public in Iowa; they are really great, (inaudible) Iowa Flood Information System, Iowa Flood Center, how this information could help them if it had been there in the 2008 flood, for example. So, they are really grateful. Like, last year, 2016, we had a heavy flood event in September. It was like four or five days of heavy rainfall, and we had over 80,000 people accessing the system in four or five days.

So, this is a big effort, this is a big milestone for us, to show that this information is valuable, that the people are trying to access this real-time data information, trying to understand the situation, not just right now, but also in the next 5-10 days, and make a decision to evacuate, to put some sandbags. So, they can make a decision, a better-informed decision, to this kind of real-time, informed systems.

And we really didn't see an example for Texas, or Florida, or other places. So, I will check this system, trying to find systems to understand the situation going on in Texas or other states. But definitely, this is a requirement and a need for us to have a nationwide or regional system to help people access this information, and timely and relevant information, through web and many other channels.

[TODD DEVOE] Yes, I think this is a– this is one of these things that we really need to get behind. One more question regarding– have you reached out, or have you presented it to any of the emergency management organizations, like say, the International Association of Emergency Managers? Have you done anything with them?

[IBRAHIM DEMIR] I mean, I don't remember exactly– I mean, definitely, we presented in many conferences, workshops, and other places. Hopefully– I remember having some emergency people attending these meetings. But we didn't have a chance to present directly to these organizations. But this is something for us to go to the next step, and reach them, and trying to make maybe a presentation, to explain our vision, and the available systems, what capabilities here would help them. But definitely, we haven't had a chance to present directly to these organizations.

[TODD DEVOE] Wow. I'd like to see if I can work that out for you, to get to be able to present to them. Because I think– you know, this is one of the reasons why I invited you on the show, because I think we need to get this word out to everybody in the emergency management world about this great work that you're doing. So, if somebody was interested in getting in touch with you, how would they do so?

[IBRAHIM DEMIR] I mean, you mentioned our website. So, definitely, they can access my contact information on our lab website, Iowa Flood Center, and I'm also a faculty in the Civil and Environmental Engineering Department. So, if you just search my name, it will probably show up in the first page on Google.

So, definitely, I will be happy to talk about what the capabilities are here, our vision, all these new products that can be used in real-time for emergency management. Definitely, I think you'll share some information on the podcast website about my contact, maybe the link to our program, the Iowa Flood Center. And hopefully, they can reach us, and then we can continue the discussion.

[TODD DEVOE] Great. Is there anything else we can do to help you promote this great work that you're doing?

[IBRAHIM DEMIR] I mean, definitely, this is a podcast, so I think it's a good step to share this information with others, and hopefully, we will reach more people, show these systems. And definitely, the recent (inaudible) after the Microsoft and another award, we've had some more visibility on the web, and many people are reaching for interviews and questions, and learning about the systems that are available at the Flood Center at the University of Iowa. Hopefully, we'll reach more people and explain what is available.

We really want these systems– because the faculty and researchers, I work on this vision, I work on this project, but I would really like to see these projects go live and help people, right? It's not just about state-of-the-art systems and the vision, but we really want this system to be used in real-time and help people during disasters.

[TODD DEVOE] I think it definitely has the potential of saving lives, for sure. Like I said earlier, the floods are the leading cause of weather-related deaths in the United States. So, I'm sure it's the same thing worldwide, and if we could– again, invest in technology like this, that is going to save lives, I'm 100% behind it. Sir, it's been a pleasure having you on the show. Is there anything else you'd like to say before we let you go?

[IBRAHIM DEMIR] I mean, I really appreciate your support. Thank you, thank you for inviting me to this podcast. And definitely, we are here to help anyone interested in disaster flooding and these new technologies. I'll be happy to discuss and share all the information and resources that we have here at the flood center in the University of Iowa. Thank you.

Links

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Involved in Emergency Response, Emergency Management, Education and Volunteer Management for over 25 years.Served as a Corpsman assigned to the Fleet Marine Force of the United States Navy. I now teach Emergency Management at Coastline Community College, I am also the Host of EM Weekly.

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2 COMMENTS

Andrew C.
MARCH 7, 2018 AT 3:50 PM

Really enjoyed this episode. The flood AI, detection and monitoring, program that the University of Iowa is working on could be a definite game changer. I really like the thought of integrating it into a system emergency responders can use to aid in their discussion making process. I will definitely be watching to see where and how this system gets integrated into the EM world.

REPLY

student
MARCH 16, 2018 AT 10:13 AM

Thank you for sharing these numbers, Joehx

REPLY

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