Aiding natural-disaster responses with Amazon SageMaker and Amazon Comprehend

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Agenda

Introductions
Problem statement
Demo: Application walkthrough
Demo Architecture
Demo: How we built the Amazon SageMaker machine learning models
Demo: Amazon Comprehend integration
Q&A
Related breakouts

AIM366-R, -R1: SpaceNet: ML to solve mapping challenges

AIM329: Using deep learning to track wildfires and air quality

WPS323: Monitoring the Earth without costing the world

AIM205-R, -R1: Starting the enterprise ML journey, featuring ProSiebenSat.1 Media SE
The fundamentals of emergency response

1. Search-and-rescue and emergency medical services come first

2. Widespread injuries occur simultaneously, overwhelming medical systems

3. The urgent need for shelter, food, water, medicine for displaced persons takes precedence

4. The type of disaster affects the types of health services required

5. Attention must be given to displaced communities and their needs

6. Logistical flexibility must be employed as unique challenges present themselves

Source: https://www.directrelief.org/fundamentals-emergency-response/
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How can machine learning help us respond more effectively to a natural disaster?

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Demo application walkthrough
Demo application architecture

- Amazon Simple Storage Service (Amazon S3)
- Amazon API Gateway
- Elastic Load Balancing
- Auto Scaling group
- Amazon S3
- AWS Lambda
- Amazon Athena
- AWS Glue
- Amazon Comprehend
- Lambda
- Amazon SageMaker
- SpaceNet
- MAXAR
- Twitter
Demo: Building the Amazon SageMaker models
Demo: Integrating Amazon Comprehend
Thank you!

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