QUAKELOGIC

AI-POWERED EARTHQUAKE RISK MANAGEMENT SOLUTIONS

PROBLEM

After a quake, organizations may face pressing challenges including whether to utilize or evacuate structures, restore interrupted operations and repair damaged facilities or equipment. Accurate information is needed to make rapid and informed decisions. Early assessment of the structural integrity not only saves lives, but also minimizes downtime.

SOLUTION

QuakeLogic is the only company offering Artificial Intelligence (AI)-powered earthquake risk management solutions to prevent and reduce human and economic losses seen during and after earthquakes. After an event, our platform performs structural assessments, and sends rapid notifications with the level of shaking intensity and whether structural integrity was compromised.

Only the QuakeLogic's cutting-edge technology gives the most critical information on structure's performance rapidly after shaking to prioritize post-quake inspections and prevent unnecessary evacuations and interruptions to ongoing operations.

QUAKELOGIC

STRUCTURAL HEALTH MONITORING SOLUTIONS FOR BUILDINGS

SYSTEM FEATURES

- Real-time Continuous Waveform Analysis
- Web Application (Dashboard)
- Cloud or On-site Monitoring
- Listening Earthquakes for Triggering
- Threshold Triggering
- Text & WhatsApp Notifications
- API (Application Program Interface)
- Multi-level Reporting
- Condition Monitoring
- State-of-health Monitoring
- Platform Works with Various Sensors:
  - Accelerometers
  - Potentiometers
  - Strain Gauges
  - Thermocouples
  - Weather Stations
- Ambient Data Collection
- Real-time Motion Capture & Image Processing

COMPUTATIONAL FEATURES

- Artificial Intelligence & Machine Learning
- Real-time Inter-Story Drift Computation
- Torsion Analysis
- Wave Propagation Analysis
- Modal Analysis (FDD & SVD)
- Base-shear Capacity vs. Demand
- Base-shear, Overturning Moment and Hysteretic Response
- Acceleration & Disp. Response Spectra
- Spectrograms
- Frequency Response Analysis
- Coherence, Cross Spectrum Phase & Cross Correlation
- Fourier Amplitude Spectra
- Power Spectral Density
- P-phase Picking
- Polarization
- Intensity Measures:
  - PGA & PGV, Arias Intensity, CAV,
  - RMS Acceleration, Duration Interval
  - Cumulative Arias Intensity
- Custom Fragility Function Integration
- USGS-PRISM Processing (COSMOS)

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