Monitoring waterlogging

October 29 2020, by David Bradley

Video monitoring of the degree to which roads in the urban environment become waterlogged during periods of enduring, heavy rain, could be used as an early warning for imminent flooding, according to new research published in the *International Journal of Embedded Systems*.

Fengchang Xue, Juan Tian, and Xiaoyi of the Nanjing University of Information Science and Technology and Yan Yan of the Meteorological Bureau of Liangyuan District in Shangqiu, China, explain that flood disasters cannot be predicted in a timely manner simply using conventional remote sensing imagery. They suggest that real-time monitoring of predictive markers such as the degree to which the land in a given urban environment is becoming waterlogged would allow a more sophisticated approach to flood prediction to be taken.

The team has employed an image difference operation and support vector machine (SVM) algorithm to help them develop a continuous monitoring and early warning system for flooding. This could be used to save lives in the face of a significant flood as well as helping reduce damage to buildings and other infrastructure. The team adds that most towns and cities already have video surveillance for crime prevention in place at street corners and on roads. The video feed from these systems of closed-circuit television (CCTV) could be adapted readily for monitoring of waterlogging.

More information: Fengchang Xue et al. Urban waterlogging monitoring and early warning based on video images, *International Journal of Embedded Systems* (2020). DOI: 10.1504/IJES.2020.110648

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