

Abstracts

English

Landslides pose significant risks to human lives, infrastructure, and the environment, necessitating early detection systems to mitigate their impact. This presentation introduces a deep learning model specifically designed for landslide detection, utilizing convolutional neural networks for feature extraction and pattern recognition. The model processes various geological, hydrological, and meteorological factors to generate predictions that are color-coded based on risk levels. Extensive testing demonstrates the model's robustness and accuracy, providing a reliable tool for early warning and disaster prevention efforts.

Kiswahili

Maporomoko ya ardhi ni tishio kubwa kwa maisha ya binadamu, miundombinu, na mazingira, hivyo basi kuna umuhimu wa mifumo ya kugundua mapema ili kupunguza athari zake. Uwasilishaji huu unaleta mfano wa kujifunza kwa kina uliobuniwa mahsusi kwa ajili ya kugundua maporomoko ya ardhi, ukitumia mitandao ya neva (CNNs) kwa ajili ya uchimbaji wa vipengele na utambuzi wa mifumo. Mfano huu unachakata mambo mbalimbali ya kijiolojia, hidrolojia, na hali ya hewa ili kutoa utabiri unaoonyeshwa kwa rangi kulingana na viwango vya hatari. Majaribio makubwa yanaonyesha uimara na usahihi wa mfano huu, na kutoa chombo cha kuaminika kwa onyo la mapema na juhudi za kuzuia maafa.

Kikuyu (example indigenous African language)

Matuu nĩ mūtiria mūnene mūno kwa maūndũ-inĩ ma mūndũ, ūtonga na ūrĩa oigana, gūtikĩrĩa mūthenya wa ūtharaga nĩ ūhoti wa kūgarũra hĩndĩ ĩno kūrĩa ĩkoretwo. ūrĩa wathomithire wĩra ūyũ nĩ mūthenya wa ūtharaga na ūmĩgathĩ wa "Deep learning" wa landslide detection, ūrĩa ūtũmĩte CNNs kūhũga nguo na kūmena mawera. Matuu ūyũ wĩ "detection system" wĩ mūno wĩna kūhinga ūndũkũ, ūĩyĩrĩte na kūrĩa nguo. Matuu ūyũ wĩ mūthenya wa ūtharaga nĩ wa kūrega mūno kūgũtha maūndũ-inĩ ma ūndũ ūyũ.