Session 2 [Web Technology & Other related Topics]
December 16th, 15:20-16:20

Session Chair: Suk-Ho Lee
Dongseo University, Republic of Korea

35671 Proposal of situation estimation system using AI speaker
Presenter: KITASAKO Yuki, Ryukoku University Graduate School, Japan

Abstruct. We propose a system that uses the sound acquired by voice AI to guess the user's situation and provide services according to the situation. The system an-alyzes environmental sounds before the user's command, and records and collects the characteristic environmental sounds as symbol sounds, the type and time of occurrence. We thought we could analyze the pattern in which a particular com-mand was executed each time a particular symbol string occurred at the same time interval. In Experiment 1, we investigated the characteristic sounds that were can-didates for symbol sounds from the recording of daily environmental sounds. In Experiment 2, we selected three characteristic sounds, converted 120 recorded da-ta into spectrogram images, and obtained a Convolutional Neural Network (CNN) model. We built a model, trained it, identified unidentified data in the trained model, and verified whether the prediction accuracy can identify it.

31509 Construction of GAN dataset to generate images similar to copyrighted images
Presenter: CHIKAZAWA Yuta, Ryukoku University Graduate School, Japan

Abstract. In this paper, we propose a system for improving the convenience of using images on the Internet and SNS, and for preventing copyright infringement that people take without notice. In this system, many similar images are collected from one image on the Internet, and an image is generated from the collected images using deep learning. As a study of image collection means, we will conduct an experiment using Content-Based Image Retrieval (CBIR), which performs image retrieval using image features. In the experiment, images are searched using CBIR and similar images are collected to construct a dataset.

Keywords: Generative Adversarial Network • Content-Based Image Retrieval
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34559 Evaluation of NoSQL Databases Features and Capabilities for Smart City Data Lake Management
Presenter: Nurhadi Hadi, Universiti Kebangsaan Malaysia, Malaysia

Abstract. A data lake means there's an immense data resource or repository. Data lake stores enormous data and uses advanced analytics to pair data from various sources with different types of structured, semi-structured and un-structured information. The lifeblood of a smart city is data. Effective data management is not limited to data collection and storage, but must also involve shared and combined data so that it can be accessed, analyzed and used across agencies, within organizations, and even across the society. NoSQL is a form of database that is becoming increasingly common among web firms. NoSQL da-tabases are non-tabular and store data rather than relational tables in a different way. NoSQL databases come in a variety of forms, mainly document, key-value, wide-column, and graph based on their data model. NoSQL offers easier scalability, better performance compared to conventional relational databases, and consists of many data types, such as document, key-value, wide-column, and graph. This work studies NoSQL database features and capabilities by con-sidering four indicators, namely performance, scalability, accuracy and com-plexity, in order to measure the compatibility of NoSQL databases with multi-ple data types. The result of the experiment reveals that when accommodating massive data volumes, MongoDB is the most stable NoSQL database.

Keywords: Data Lake, NoSQL, Smart City Database