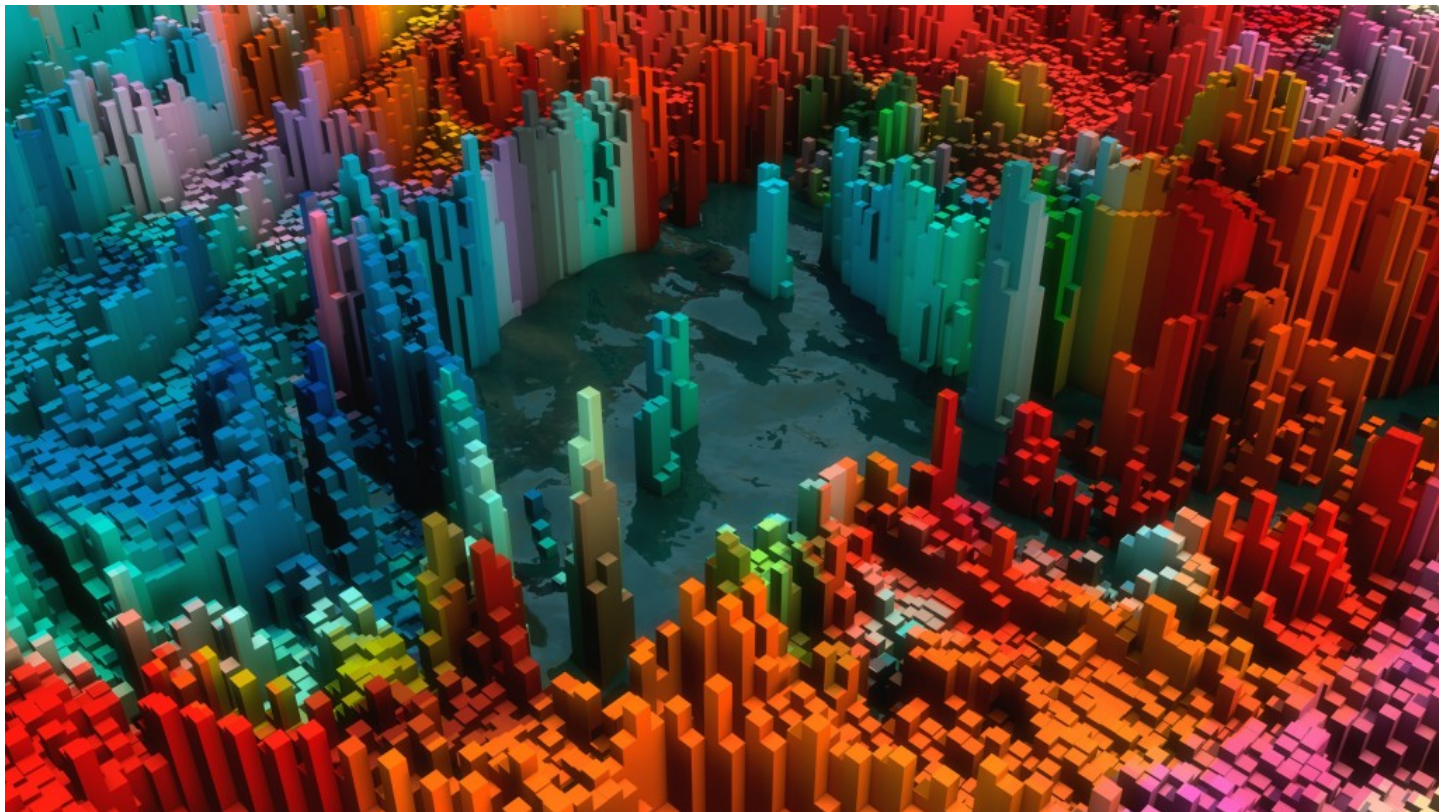


Geeky News Reveals the Future of 3D Mapping: ConceptFusion



Surrey, United Kingdom Dec 14, 2023 ([Issuewire.com](https://www.issuewire.com)) - Geeky News, a leading technology and lifestyle journal, is proud to announce the publication of its new article. Titled "Unveiling the Future of 3D Mapping," the article explores the untapped potential of simultaneous localisation and mapping (SLAM) in advancing 3D mapping. It also introduces ConceptFusion, a new approach to creating enriched 3D maps with semantic information.

In this article, the author delves into the foundation of SLAM. It discusses its evolution from mapping environments in 2D to the more sophisticated realm of 3D mapping. Using sensor data and computational algorithms, SLAM allows robots to understand their environment in real time. It helps robots perceive, navigate, and create detailed maps.

The author highlights the diverse applications of SLAM. These range from robotics navigation and augmented reality to autonomous vehicles and industrial automation. One of the standout features of SLAM is its ability to generate intricate three-dimensional maps. It provides a nuanced understanding of spatial relationships and object placement within an environment.

This ability has been used extensively in industries like construction and mining. The article mentions how companies like [Exyn Technologies](#) use SLAM in their 3D mapping drones for the mining industry.

The article introduces two notable contributors that have reshaped the landscape of intelligent robotics: CLIP and DINO. CLIP, a multimodal AI model developed by OpenAI, enhances the understanding of

natural language instructions or descriptions in intelligent robotics. It enables the annotation and semantic labelling of SLAM-generated maps, contributing to more natural human-robot interactions.

On the other hand, DINO, a self-supervised learning approach for vision transformers, empowers robots with improved visual perception. By incorporating DINO's learned feature representations into SLAM systems, robots improve their understanding of the visual aspects of the environment. This leads to more accurate mapping and self-localisation.

The article then introduces the next step in the field of 3D mapping: ConceptFusion. This approach integrates advancements in language, image, and audio domains. It builds upon traditional SLAM techniques. ConceptFusion integrates the features extracted from models like CLIP and DINO. That enables the creation of enriched 3D maps with semantic information. It allows robots to understand and interact with their environments in a versatile and open-ended manner.

Through ConceptFusion, robots are expected to exhibit zero-shot reasoning capabilities. They'll be able to comprehend complex instructions involving multimodal data. And, they'll also be better handle tasks such as object retrieval and recognition. The fusion of CLIP, DINO, and SLAM in ConceptFusion promises significant advancements in the capabilities of intelligent robotic systems.

Geeky News continues to be at the forefront of technology journalism, providing in-depth insights into emerging technologies and their impact on our lives. To read the full article, please visit <https://www.geekynews.co.uk/future-3d-mapping/>.

Media Contact

Geeky News

press@geekynews.co.uk

+44 20 3800 1212

Parallel House, 32 London Road Guildford, Surrey

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