

**The Weizmann Institute of Science
Faculty of Mathematics and Computer Science**

Vision and AI

Room 1, Ziskind Building
on Thursday, Feb 22, 2024
at 12:15

Omri Avrahami
HUJI

will speak on

Extracting Multiple Concepts from a Single Image and Generating Consistent Characters

Abstract:

Text-to-image model personalization aims to introduce a user-provided concept to the model, allowing its synthesis in diverse contexts. However, current methods primarily focus on the case of learning a single concept from multiple images with variations in backgrounds and poses, and struggle when adapted to a different scenario. We introduce the task of textual scene decomposition: given a single image of a scene that may contain several concepts, we aim to extract a distinct text token for each concept, enabling fine-grained control over the generated scenes.

Then, in the second part, we tackle the problem of consistent characters generation, a crucial aspect for numerous real-world applications such as story visualization, game development, asset design, advertising, and more. Current methods typically rely on multiple pre-existing images of the target character or involve labor-intensive manual processes. We propose a fully automated solution for consistent character generation, with the sole input being a text prompt.

Project Pages:

<https://omriavrahami.com/break-a-scene/>

<https://omriavrahami.com/the-chosen-one/>

Bio: Omri is a PhD student at the School of Computer Science and Engineering at the Hebrew University of Jerusalem, under the joint supervision of Prof. Dani Lischinski and Dr. Ohad Fried, interested in developing new tools for content synthesis and editing.