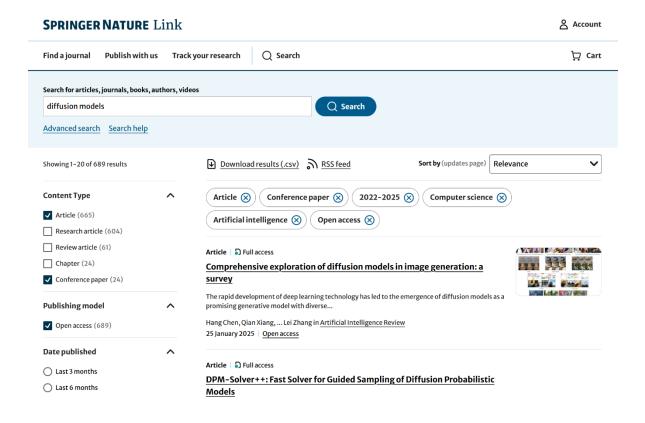
Калитиков Лев КС-33

Тема: Синтез изображений по текстовому описанию с использованием диффузионных нейросетевых моделей

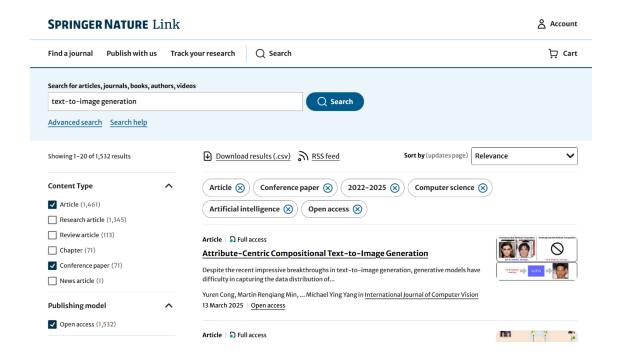
Ключевые слова: text-to-image generation, diffusion models, generative AI image synthesis.

Поисковые запросы, выполненные по ключевым словам:

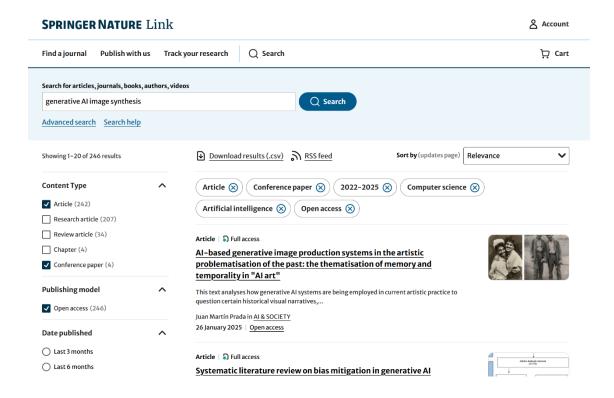
- diffusion models — 689 публикаций



– text-to-image generation — 1532 публикации

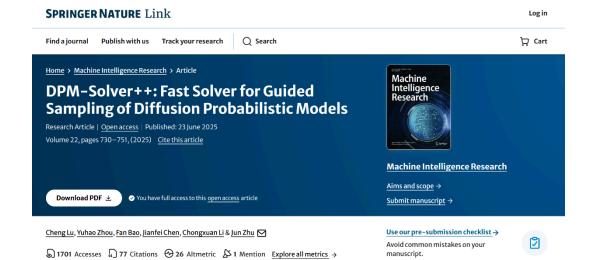


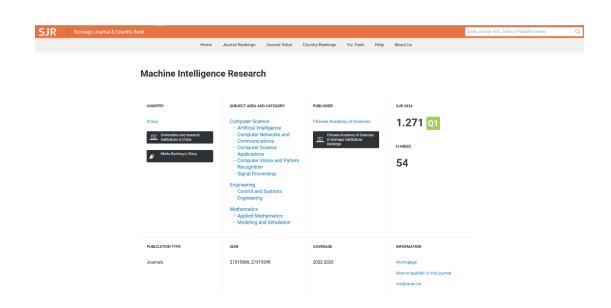
- generative AI image synthesis — 246 публикаций

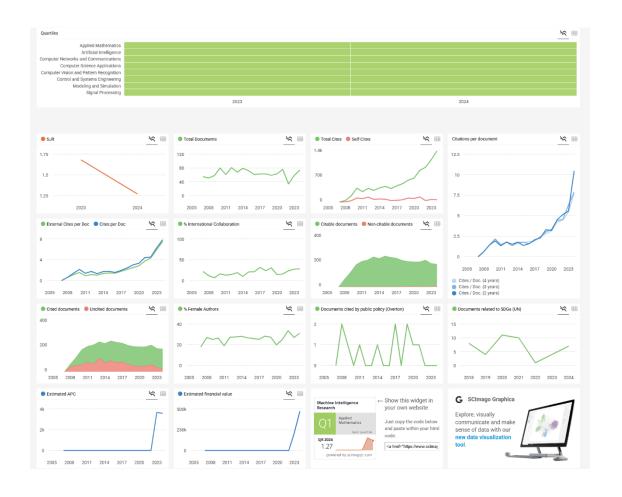


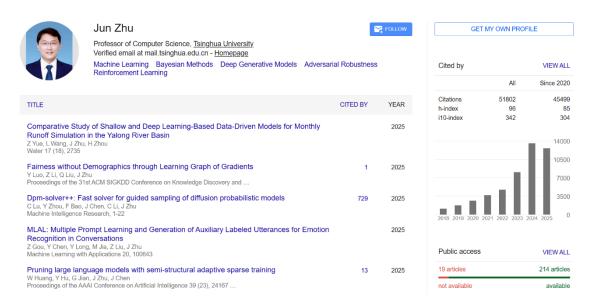
Статьи:

1. DPM-Solver++: Fast Solver for Guided Sampling of Diffusion Probabilistic Models



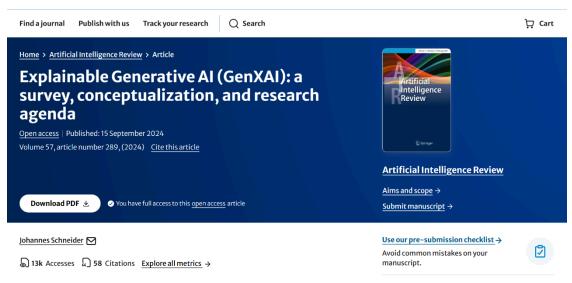


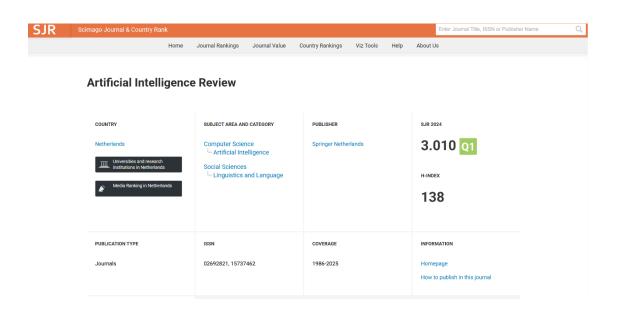


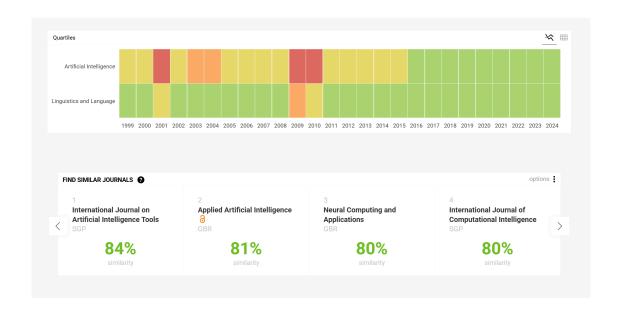


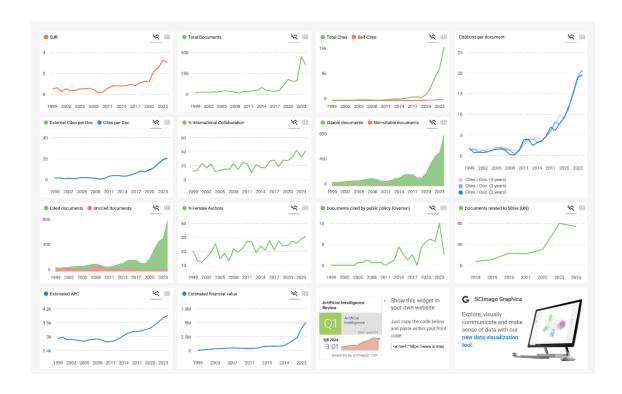
2. Explainable Generative AI (GenXAI): a survey, conceptualization, and research agenda

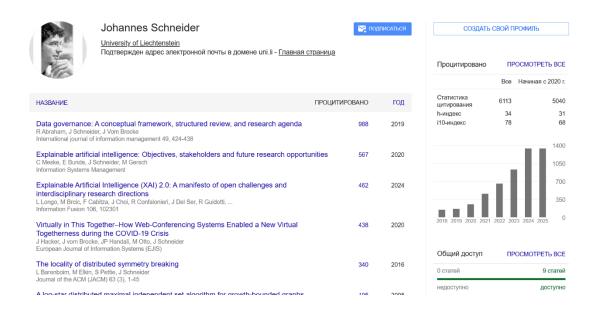




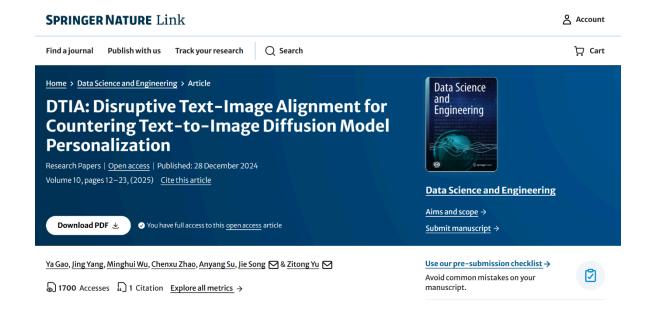


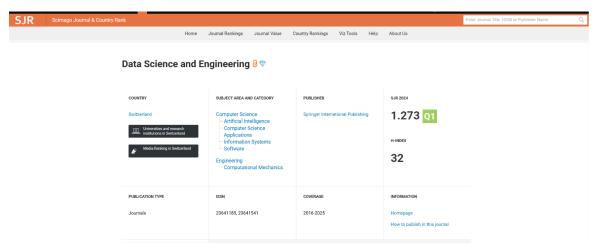


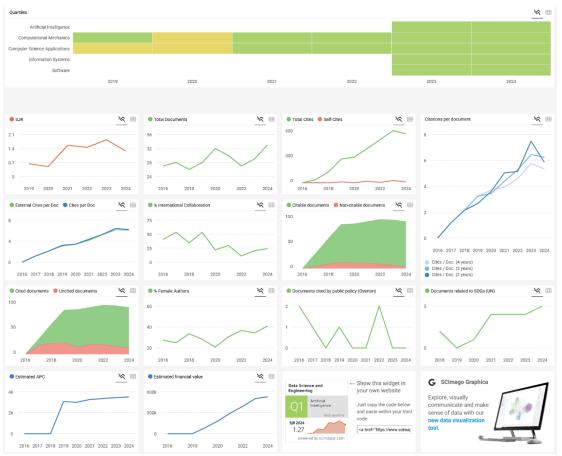


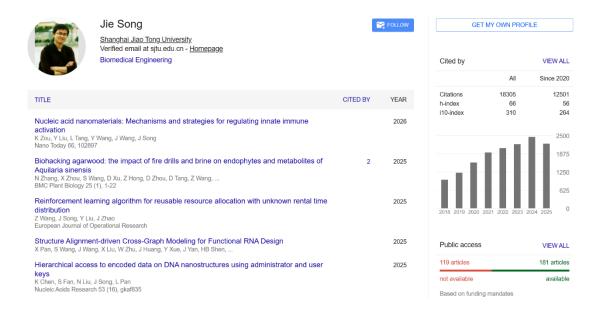


3. DTIA: Disruptive Text-Image Alignment for Countering Text-to-Image Diffusion Model Personalization

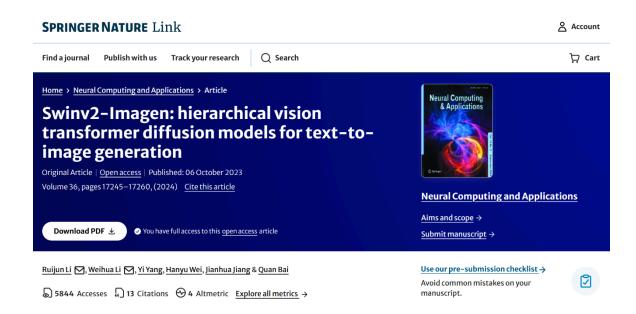


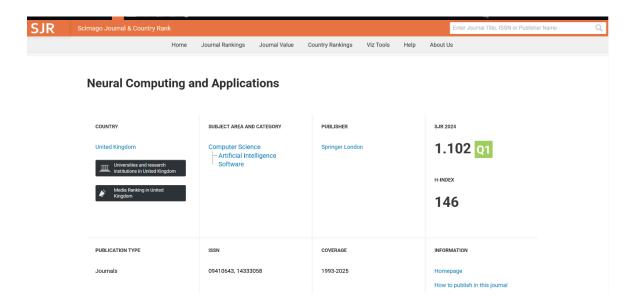


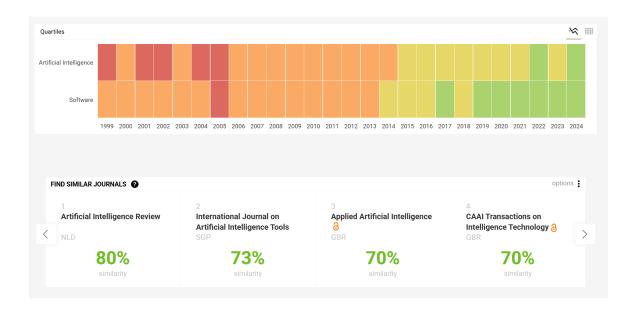


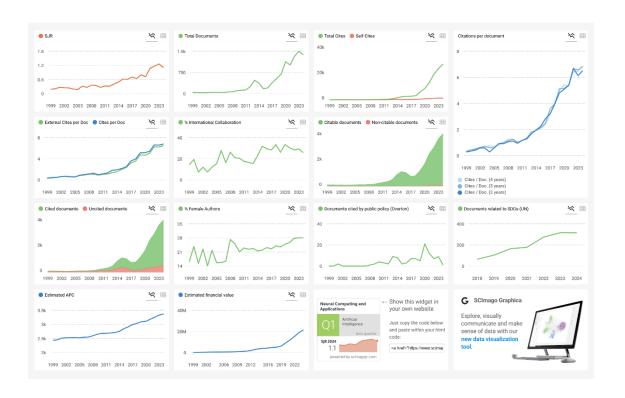


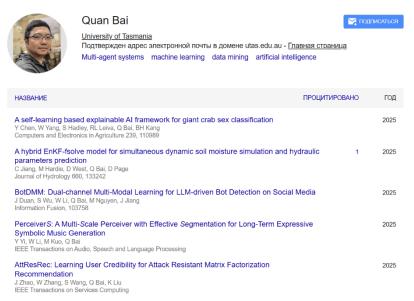
4. Swinv2-Imagen: hierarchical vision transformer diffusion models for text-to-image generation

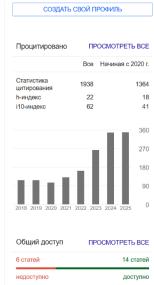




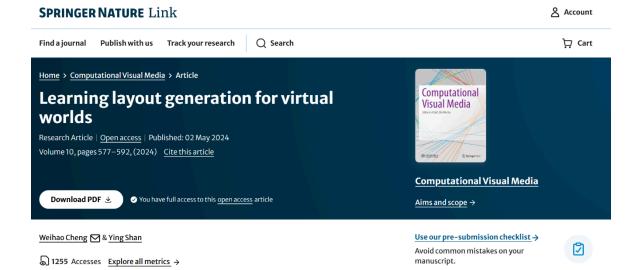


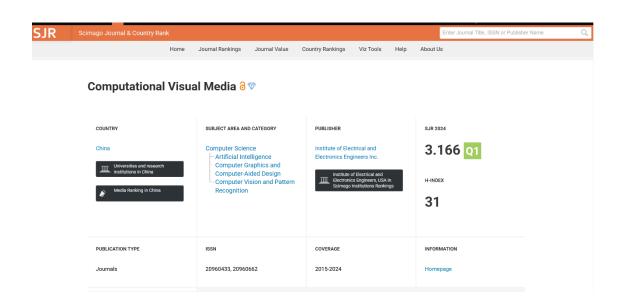


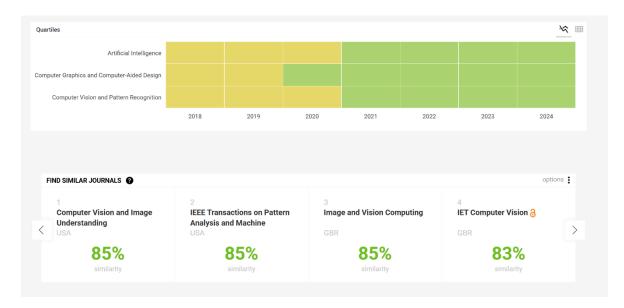




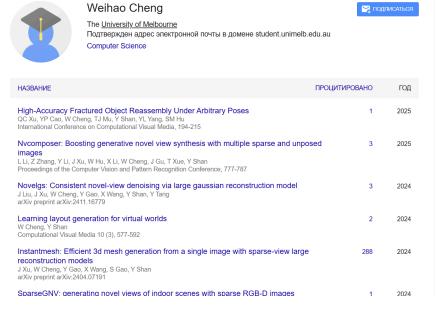
5. Learning layout generation for virtual worlds

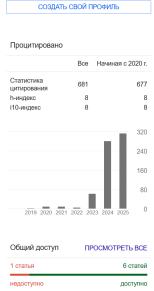




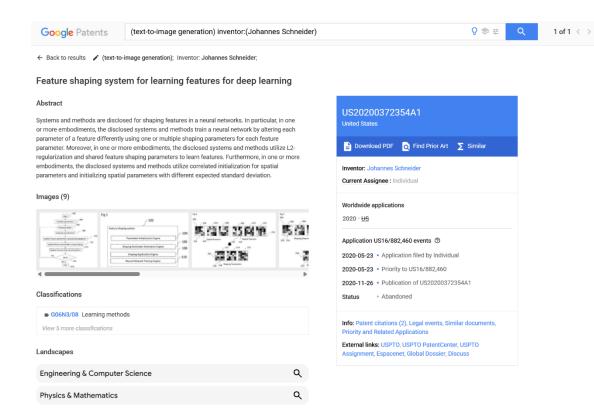


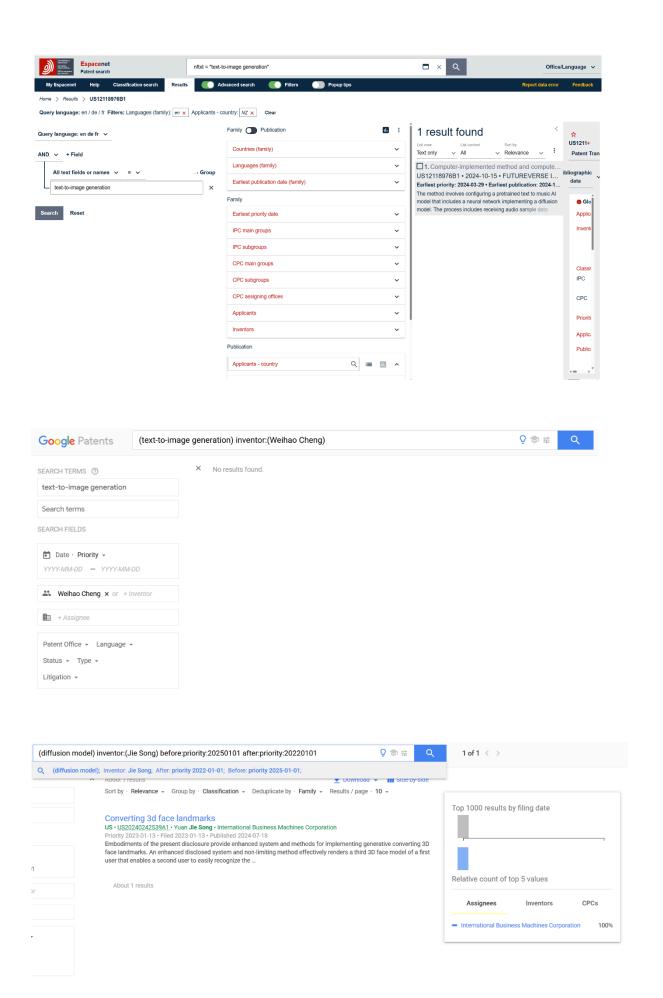


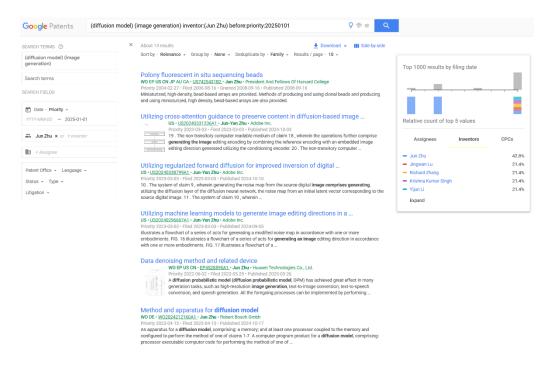




Патенты:







← Back to results 📝 (diffusion model); Inventor: Jun Zhu; Before: priority 2025-01-01;

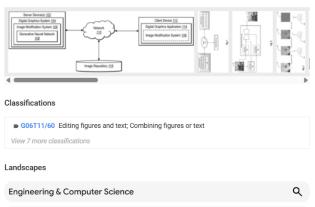
Utilizing cross-attention guidance to preserve content in diffusion-based image modifications

Abstract

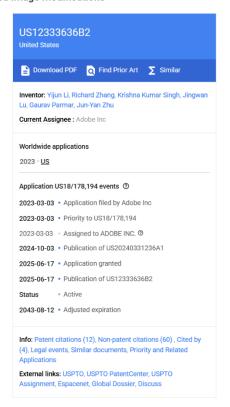
The present disclosure relates to systems, non-transitory computer-readable media, and methods for utilizing machine learning models to generate modified digital images. In particular, in some embodiments, the disclosed systems generate image editing directions between textual identifiers of two visual features utilizing a language prediction machine learning model and a text encoder. In some embodiments, the disclosed systems generated an inversion of a digital image utilizing a regularized inversion model to guide forward diffusion of the digital image. In some embodiments, the disclosed systems utilize cross-attention guidance to preserve structural details of a source digital image when generating a modified digital image with a diffusion neural network.

Images (19)

Theoretical Computer Science



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Q

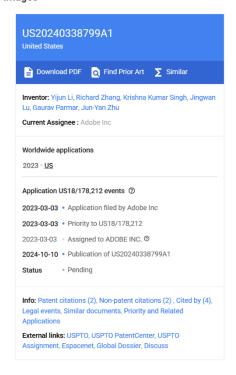
Utilizing regularized forward diffusion for improved inversion of digital images

Abstract

The present disclosure relates to systems, non-transitory computer-readable media, and methods for utilizing machine learning models to generate modified digital images. In particular, in some $embodiments, the \ disclosed \ systems \ generate \ \underline{image} \ editing \ directions \ between \ textual \ identifiers$ of two visual features utilizing a language prediction machine learning model and a text encoder. In some embodiments, the disclosed systems generated an inversion of a digital image utilizing a regularized inversion model to guide forward diffusion of the digital image. In some embodiments, the disclosed systems utilize cross-attention guidance to preserve structural details of a source digital **image** when generating a modified digital **image** with a **diffusion** neural network.

Images (19)





← Back to results 📝 (diffusion model) (image generation); Inventor: Jun Zhu; Before: priority 2025-01-01;

Data denoising method and related device

Theoretical Computer Science

Abstract

A data denoising method and a related device are provided. According to the method, an artificial intelligence technology may be used to perform denoising on data, and any target denoising operation in at least one denoising operation performed on noisy data includes: generating, based on first prediction information and second prediction information, distribution information corresponding to the target denoising operation, where the first prediction information indicates predicted noise between second noisy data and clean data, the second prediction information indicates a square of the predicted noise between the second noisy data and the clean data or indicates a square of a predicted distance between the first prediction information and actual noise, and the actual noise includes actual noise between the second noisy data and the clean data, and sampling denoised data in distribution space to which the distribution information points. Because distribution information corresponding to a denoising operation is not directly learned of, a quantity of denoising operations performed on noisy data is not constrained by a training phase, and flexibility of an inference phase is improved.

Images (19)

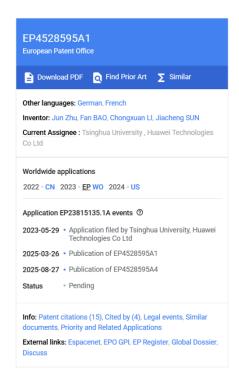


Classifications

■ G06N3/08 Learning methods View 10 more classifications

Landscapes





Вывод:

Проведённый анализ международных источников показал, что тема генерации изображений является одной из самых важных в мировой науке и имеет огромное практическое значение. Её актуальность подтверждается публикациями в лучших мировых журналах (категории Q1) и высоким индексом Хирша исследователей. Практическая значимость подтверждается прямой связью между наукой и ІТ-компаниями: передовые разработки, созданные ведущими университетскими учёными, патентуются крупными компаниями (Adobe, Huawei, IBM).