NEWS RELEASE

November 28, 2018

Company name	IMAGICA GROUP Inc.
Title and Name of Representative	Makoto Tsukada, Representative Director, President (Securities code: 6879, TSE 1st Section)
Inquiries	Masakazu Morita Director, Executive Officer
TEL	+81-3-6741-5742

Automated technique for anime colorization using deep learning

Japanese researchers from IMAGICA GROUP Inc., OLM Digital, Inc. and Nara Institute of Science and Technology (NAIST) have jointly developed a technique for automatic colorization in anime production.

While the number of animation works produced in Japan has been increasing every year, the number of animators has remained almost unchanged. To promote efficiency and automation in anime production, the research team focused on the possibility of automating the colorization of trace images in the finishing process of anime production. By integrating the anime production technology and know-how of IMAGICA GROUP Inc. and OLM Digital, Inc. with the machine learning, computer graphics and vision technology of NAIST, the research team succeeded in developing the world's first technique for automatic colorization of Japanese anime production. The technique is based on recent advances of deep learning approaches that are nowadays widely applied in various fields.

After the trace image cleaning in a pre-processing step, automatic colorization is performed according to the color script of the character using a deep learning-based image segmentation algorithm. The colorization result is refined in a post-process step using voting techniques for each closed region.

This technique will be presented at SIGGRAPH ASIA 2018, an international conference on computer graphics and interactive techniques, to be held in Tokyo, Japan on Dec. 4-7.

While this technique is still in the preliminary research stage, the research team will further improve its accuracy and validate it in production within the anime production studio. The product of this will be available for commercialization from 2020.

Resource

Title: Pre- and Post-Processes for Automatic Colorization using a Fully Convolutional Network

Authors: Sophie Ramassamy, Hiroyuki Kubo, Takuya Funatomi, Daichi Ishii, Akinobu Maejima, Satoshi Nakamura & Yasuhiro Mukaigawa

Presentation: SIGGRAPH ASIA 2018

Information about Prof. Mukaigawa lab can be found at the following website:
http://omilab.naist.jp/index.html

Release Summary:

Researchers at the Nara Institute of Science and Technology, IMAGICA GROUP Inc. and OLM Digital, Inc. report the world's first technique for automatic colorization focused on Japanese anime production. The new technique is expected to promote efficiency and automation in anime production.

For additional information please contact Corporate Planning Dept. at +81.3.6741.5742 or press@imagicagroup.co.jp with press inquiries.