Shin-ei Arakawa

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About

A master student at Waseda University, interested in computer vision with deep learning. Engaged in the development of controlled image generation using diffusion models. Profound understanding of statistical theory and versatile programming languages. Current research aim revolves around developing a **virtual explorable world** using foundation models, envoking a sence of “being there” to users.

General Information

Place: Tokyo, Japan
Phone: +81-80-2814-4118
Email: sarakawalab@gmail.com
Web: shineiarakawa.github.io
Languages: Japanese (native) and English (CEFR level: B2)

Education

Waseda University

Tokyo, Japan; 2023.4 - current

M.E. in Applied Physics
Adviser: Dr. Shigeo Morishima

Waseda University

Tokyo, Japan; 2019.4 - 2023.3

B.E. in Applied Physics
Adviser: Dr. Shigeo Morishima

Awards

Poster Presentation Award 2023.9
Visual Computing (VC) 2023

Student Encouragement Award of 85th National Convention 2023.3
Information Processing Society of Japan (IPSJ)

Publications

[1] **Memory Efficient Diffusion Probabilistic Models via Patch-based Generation**
Shinei Arakawa, Hideki Tsunashima, Daichi Horita, Keitaro Tanaka, Shigeo Morishima
Generative Models for Computer Vision Workshop in CVPR, 2023.

Domestic publications are listed on my website.

Working Experience

Teaching Assistant on “Research Seminar on Applied Physics,” Waseda University 2023.4 - 2023.12

- Traced research proccesses with fresh undergraduate students during three simesters
- Mentored two students to build an image generation model and conduct assessments
- Led the students to present the work in class to professors

Engineer at Insight Inc., Tokyo, Japan 2021.3 - current

- Developed computational mechanics softwares for the simulation of wind farms
- Designed GUI softwares for computer aided engineering (CAE) using Qt or Java Swing frameworks
- Built generative models for seismic wave simulations on the domestic supercomputer, Fugaku

Conpetences

Programming: Python, C, C++, CUDA, Java

Framework: PyTorch, Tensorflow, OpenCV, OpenGL, Open3D, Qt, ImGui, CUDA-X, Thrust, Docker