

ISSEI MORI

Computer Vision • Computer Graphics • Deep Learning

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EDUCATION

University of California San Diego - M.S. in Computer Science

September 2021 – Expected graduation June 2023

- Advisor: Professor Hao Su

University of California Santa Cruz - B.S. in Computer Science

July 2017 – June 2021

- GPA: 3.95/4.0 | Summa cum laude | Highest Honors in Computer Science B.S.
- Award: Chancellor's Undergraduate Research Award 2020 Recipient | ACM UCSC Hackathon Student Utility Award Winner
- Courses: Distributed Systems | Parallel Programming | Operating Systems | Artificial Intelligence | Computer System Design
- TA: Computer Graphics | Game Engines | Game Graphics and Real-Time Rendering
- Leadership: Vice President of Japanese Student Association

WORK EXPERIENCE

Software Engineer Internship - NIKKEI America Inc.

August 2020 – Present

- Deployed a topic recommendation system based on user clustering using neural networks.
- Developed a system to identify female representation in news article images in an International journalism team.
- Wrote an article analyzing the performance of Apple M1 Chip and NVIDIA RTX, which was posted on a 17 million PV/month news site.

Research Internship - University of California Santa Cruz

April 2018 – June 2021

- Researched and implemented a tool to detect rip currents from videos using C++ OpenCV, achieving the highest accuracy on challenging cases.
- Accelerated the computational speed by three times to achieve real-time processing using the CUDA GPU implementations.

RESEARCH EXPERIENCE

Neural Simulation - Advisor: Prof. Hao Su

July 2021 – Present

- Investigated deep learning methods to learn the behavior of softbody dynamics.
- Trained and tested graph neural networks for particle simulation using MPM simulation as the ground truth.

Physarum Telam: Volumetric Path Tracer - Advisor: Prof. Angus Forbes, Dr. Oskar Elek

August 2020 – April 2021

- Designed an interactive 3D visualization of cosmological data, rendered with Slime Mold material using a physically-based volumetric path tracer.
- Implemented the appearance model in a custom GPU-based Monte Carlo path tracer with DirectX HLSL shaders to simulate light transport.
- Accepted to the ALIFE 2021 & awarded the Best Art Award Winner.

PROJECTS

File System in FreeBSD

- Designed and implemented a deduplicating file system in FreeBSD as a kernel module by extending UFS.

3D Mold Generator - isseim.com/3DMoldGenerator

- Developed an automated online 3D modeling application to design 3D printable files. Over 4000 users currently.
- Set up a Linux server that processes user requests using Blender 3D mesh modeling API.

SKILLS

Productive: C++, Python, Tensorflow, Pytorch, OpenCV

Familiar: C, CUDA, Linux kernel, JavaScript, HTML, AWS, GCP, RDS, Flask, React, DirectX, HLSL, VR development, OptiX, Maya, Unreal Engine

Publications

- "Automated rip current detection with region based convolutional neural networks", Coastal Engineering, June 2021
- "Face Models: How Good Does My Data Need To Be?", IEEE ICIP, September 2021
- Speaker: "How might we leverage AI to understand, identify and mitigate newsroom biases?", JournalismAi Festival, December 2020