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
- Courses: Advanced Computer Vision | Advanced Image Synthesis | Deep Learning for 3D Data

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

WORK EXPERIENCE

Software Development Engineer Internship - Amazon *June 2022 – September 2022*

- Developed and deployed an investigation tool to prevent fraudulent returns and refunds by malicious users, aggregating useful data and statistics across the system.
- Designed the interface and data structure from the backend API calls in Java to the frontend UI, applying the design patterns to make the tool easily scalable and customizable.

Software Engineering / Data Science Internship - NIKKEI America Inc. *August 2020 – June 2022*

- Deployed a topic recommendation system based on users' interests using big data and neural networks, achieving almost x2 CTR.
- 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*

- Explored the performance of neural networks for learning the behavior of soft-body dynamics.
- Investigated how adding deformation features and finetuning with real captured depth data improve the model performance.

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.

SKILLS

Productive: Java, C++, Python, Pytorch

Familiar: C, OpenCV, CUDA, Linux kernel, JavaScript, AWS, GCP, RDS, MATLAB, Flask, React, DirectX, HLSL, VR development, OptiX

KEY PUBLICATIONS

- "How much does input data type impact final face model accuracy?", CVPR2022 Oral