Terry Chen

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Education

Master of Applied Science (candidate) / École de technologie supérieure — *Sept. 2023 – Present*
Supervisors: Prof. Adrien Gruson, Prof. Derek Nowrouzezahrai (McGill University)
Thesis: Optimized shift mapping operators for rendering.

Bachelor of Mathematics / University of Waterloo — *Sept. 2018 – Dec. 2022*
Double major in Computer Science and Statistics.

Experience

Research Intern / Ubisoft La Forge — *May 2024 – Jan. 2025*
- Designed and implemented approaches for optimizing state-of-the-art real-time rendering techniques.
- Wrote, debugged, and optimized hardware raytracing shaders in Ubisoft's proprietary research engine.

Undergraduate Research Assistant / University of Waterloo — *May 2022 – Aug. 2022*
Supervisor: Prof. Toshiya Hachisuka
- Researched the walk-on-boundary method for grid-free solving of PDEs, resulting in an ACM TOG paper.
- Developed the first-ever 3D implementation of this method, proving its viability in computer graphics.

Software Developer Intern / A.U.G. Signals — *Jan. 2021 – Apr. 2021*
- Developed monitoring dashboards for embedded devices, incorporating real-time data visualization and communication over MQTT through AWS IoT.

Undergraduate Research Assistant / University of Waterloo — *May 2020 – Dec. 2020*
Supervisor: Prof. Samuel Wong
- Sped up training of an ML model 20x by implementing multithreading and custom data structures.
- Investigated technical approaches to optimizing energy functions and predicting protein structures.

Publications

A Practical Walk-on-Boundary Method for Boundary Value Problems ↗ — 2023
Ryusuke Sugimoto, Terry Chen*, Yiti Jiang, Christopher Batty, Toshiya Hachisuka*
ACM SIGGRAPH North America 2023 (Transactions on Graphics 42(4))

Projects

Photorealistic path tracer / UWaterloo CS 488 Final Project — 2021
- Parallel Monte Carlo path tracer implementing importance sampling, principled BSDF materials, microfacet normals, and nested dielectric effects.

Awards

Undergraduate Student Research Award / NSERC — 2022
Undergraduate Research Fellowship / University of Waterloo — 2022

Service

Student Volunteer / SIGGRAPH North America — 2022, 2023