YI-LU CHEN

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EDUCATION

Sep. 2020 – present	**Institute of Science and Technology Austria** *PhD Candidate* **Advisor:** Chris Wojtan **Thesis Committee:** Scott Waitukaitis, Joseph Teran
Sep. 2017 – Jun. 2020	**ETH Zürich** *Master of Science, Department of Computer Science* **GPA:** 5.75/6.00, graduated with distinction. **Master Thesis:** *Reducing Numerical Dissipation of Euler Equations for Computer Graphics* **Advisors:** Vinicius da Costa de Azevedo, Barbara Solenthaler, Markus Gross
Sep. 2013 – Jun. 2017	**National Taiwan University** *Bachelor of Science, Department of Computer Science and Information Engineering* **GPA:** 4.19/4.30, (*top 5%*).

PUBLICATION

Jul. 2024	**Primal–Dual Non-smooth Friction for Rigid-body Animation** *Y.L. Chen*, M. Ly, C. Wojtan *ACM SIGGRAPH 2024 Conference Papers*
Aug. 2023	**Unified Treatment of Contact, Friction and Shock-propagation in Rigid Body Animation** *Y.L. Chen*, M. Ly, C. Wojtan *Proceedings of the Symposium on Computer Animation 23 (SCA)*
Jul. 2023	**Procedural Metamaterials: A Unified Procedural Graph for Metamaterial Design** L. Makatura*, B. Wang*, *Y.L. Chen*, B. Deng, C. Wojtan, B. Bickel, W. Matusik (*joint first authors*) *ACM Transaction on Graphics. Presented at SIGGRAPH 2023*
Nov. 2020	**An Extended Cut-cell method for Sub-Grid Liquids Tracking with Surface Tension** *Y.L. Chen*, J. Maier, B. Solenthaler, V. C. Azevedo *ACM Transactions on Graphics. Proceedings of ACM SIGGRAPH Asia 2020*
Dec 2019	**Reducing Numerical Dissipation of Euler Equations for Computer Graphics** *Y.L. Chen* *Master thesis*

EXPERIENCE AND RESEARCH PROJECTS

Feb. 2021 – Apr. 2021	**Rotation project with Scott Waitukaitis**, ISTA Simulation of Charge Decay in Ionized Atmosphere
Dec. 2020 – Feb. 2021	**Rotation project with Bernd Bickel**, ISTA Procedural Generation of Metamaterial *Resulted in one publication in ACM ToG*
Oct. 2020 – Dec. 2021	**Rotation project with Chris Wojtan**, ISTA Homogenizing thin strands

Mar. 2020 – *May 2020*	**Research assistant**, ETH Zürich Simulating Euler equations with free surfaces using cut-cells *Resulted in one publication at SIGGRAPH Asia 2020*
Spring 2019	**Research project**, Disney Research Zürich Hand gesture recognition with LeapMotion Advisor: Cengiz Öztireli
Spring 2016	**Research project**, National Taiwan University Denoising Monti-Carlo Rendering with Linear Regression Advisor: Yung-Yu Chuang

ADDITIONAL EXPERIENCE AND AWARDS

Spring 2019	**Runner up: final project** For the course *Physics-based Modeling for Computational Fabrication and Robotics* at ETH Zürich. Simulation of amusement park rides, including safety analysis and optimization.
Fall 2017	**4th place: final project** For the course *Physics-based Animation* at ETH Zürich. Implemented implicit MPM snow.
Fall 2017	**Runner up: rendering competition** For the course *Computer Graphics* at ETH Zürich. Implemented Disney BRDF, volumetric rendering, environment maps and more.
Spring 2014 – *Fall 2015*	**Presidential award:** Awarded to top 5% of students each semester. Received 4 times.

MISC. PROJECTS

Fall 2019	**Nonogram solver** Fast Nonogram solver written in C++
Summer 2018	**Image Dehazer** Image dehazer written in JavaScript, based on work by Berman et al. 2016

LANGUAGES

Programming: C++, C, Python, MATLAB, JavaScript, LaTeX

Natural: Taiwanese (a.k.a. Amoy/Hokkien/Taiwanese Hokkien/QuanZhang/etc., fluent), Mandarin (fluent), English (fluent), German (intermediate)