Yu Ju (Edwin) Chen

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Website: `https://edwinchenyj.github.io`

Skills

- Machine Learning, PCA, Numerical Linear Algebra, Numerical Optimization, Numerical Differential Equation, C++, Python, Matlab, Javascript, Typescript, CMake, Git, C#, Docker, CI/CD, NodeJs, React, Linux, Object-oriented design, Cloud services, Concurrency, Parallel Computing, Cuda, DirectX.

Education

- **University of British Columbia**   **Vancouver, British Columbia**
  PhD. , Computer Science   *Sep 2014 - May 2020*
  Dissertation: Integrators for elastodynamic simulation with stiffness and stiffening
  Advisors: Uri Ascher, Dinesh Pai

- **University of British Columbia**   **Vancouver, British Columbia**
  BASc, Engineering Physics   *Sep 2009 - April 2014*

Experiences

- **Senior Researcher - Tencent America**, Los Angeles, CA   *Feb 2022 - Present*
  As a researcher in the Game and AI team, I work on GPU-based numerical techniques for physically-based simulation.

- **Research Software Engineer - Rapidia Tech Inc**, Vancouver, BC   *July 2019 - Jan 2022*
  I was the lead for the software team, where we developed both software and firmware for our product. I worked on our software infrastructure and lead the development for our software tools, including a NodeJS electron app, an image processing based close-loop print quality control, and a thread-safe communication protocol for our furnace controller.

- **Research Intern - Adobe Creative Technologies Lab**, Seattle, WA   *May 2017 - Aug 2017*
  Supervisors : Danny Kaufman
  I investigated integrators for physical simulation with mass-PCA model reduction and published our work EigenFit at SCA 2019.

Publication

- **SIERE: A Hybrid Semi-Implicit Exponential Integrator for Efficiently Simulating Stiff Deformable Objects**
  Yu Ju Chen, Seung Heon Sheen, Uri M. Ascher, Dinesh K. Pai
  ACM TOG 2020

- **EigenFit for Consistent Elastodynamics Simulation Across Mesh Resolution**
  Yu Ju Chen, David Levin, Danny Kaufman, Uri M. Ascher, Dinesh K. Pai
  Symposium on Computer Animation 2019

- **Exponential Rosenbrock-Euler Integrators for Elastodynamic Simulation**
  Yu Ju Chen, Uri M. Ascher, Dinesh K. Pai
  IEEE TVCG 2017

Teaching Experiences

- **Teaching Assistant**
  - **Computational Optimization (CS406)** *University of British Columbia*   *Sep 2016 - Dec 2016*
  - **Numerical Computation (CS302)** *University of British Columbia*   *Sep 2014 - Dec 2014*
  - **Numerical Approximation (CS303)** *University of British Columbia*   *Jan 2015 - Apr 2015*
  - **Computer Graphics (CS314)** *University of British Columbia*   *Jan 2014 - Apr 2014*

Awards

- **PGSD** *University of British Columbia*   *May 2016 - Apr 2019*
- **CGSM** *University of British Columbia*   *Sep 2014 - Aug 2015*
- **Roy Nodwell Memorial Prize** *University of British Columbia*   *Jan 2014 - Apr 2014*