Yu Ju (Edwin) Chen

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313-6735 Station Hill Crt., Burnaby, BC V3N 4W5, Canada

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.

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

- **Post Doctoral Fellowship**, Vancouver, BC *Oct 2021 -Present*
  I am working with Dr. Uri Ascher on exponential integrators with constraints and machine learning.
- **Software Lead - Rapidia Tech Inc**, Vancouver, BC *July 2019 - Present*
  I am the lead for the software team, where we develop and ship 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. I also gained valuable industry experiences including software release life cycle, daily scrum, OO design patterns, CI/CD.
- **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*