

Bruno Li

(954) 253-8097 • bruno.sie.li@gmail.com
<http://www.cs.utexas.edu/~tsornin/>

EDUCATION

University of Texas at Austin

August 2009 to May 2012

Major in Computer Science — Turing Scholars Honors Program

• GPA: 3.61/4.00

Related coursework:

Data Structures*; Artificial Intelligence; Software Engineering; Graphics†;
Digital Logic Design; Computer Architecture*; Operating Systems*;
Logic, Sets, and Functions*; Analysis of Programs*; Theory in Programming; Algorithms*;
Linear Algebra; Multivariable Calculus; Differential Equations

* - Honors; † - Graduate

PROJECTS

Senior Thesis

August 2011 to present

Advisor: Dr. Don Fussell

Modeling soft-body plants with wind, rain, and fire effects using Verlet particles and constraints using my physics engine (see below).

"Umbrella"

November 2009 to present

Research Project — <http://www.cs.utexas.edu/~tsornin/umbrella.html>

Built a 2D physics engine in C++ with OpenGL and SDL, designed around three object types and arbitrary collision-type pair filtering. Implemented an extension to the sort-and-sweep algorithm to deal with collision groups.

- Rigid: rigid body type composed of convex shapes.
- Euler: dedicated particle type for inaccurate fast particles.
- Verlet: dedicated particle type for stable soft bodies.

Features: quadtree and sort-and-sweep broad phase; impulse-based collision response; rigid bodies with multiple convex shapes; dedicated particle types; user-specified collision groups; OpenGL rendering

WORK

University of Texas at Austin

September 2011 to present

Proctor (20 hours/week) — Algorithms and Data Structures

- Answered student questions and wrote scripts to automate assignment grading.

University of North Texas

September 2008 to May 2009

Math Lab Tutor (2 hours/week)

- Tutored students in calculus (single- and multi-variable) and calculus-based physics topics (mechanics, electricity and magnetism, thermodynamics, optics).

SKILLS

Programming Languages

Strongest in Java (5 years) and C++ (3 years); experienced with C and OpenGL.

Other Software

Proficient with Photoshop (6 years) for web graphics and logo design. Familiar with HTML/CSS and PHP.

Foreign Languages

Bilingual in Chinese (Mandarin, Shanghainese dialects).