

James Vanderhyde

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EDUCATION

Georgia Institute of Technology

Ph.D. in Computer Science, August 2007

Thesis: "Topology control of volumetric data"

Advisor: Andrzej Szymczak

Michigan State University

M.S. in Computer Science, May 2001

Project: "Comparing evolutionary trees and tree-building methods"

Advisor: Eric Torng

Hope College, Holland, MI

B.S. in Math and Computer Science, German minor, May 1999, *summa cum laude*

TEACHING EXPERIENCE

Governor's Honors Program, Valdosta, GA 31698

2004-2006

Math teacher—taught various math and computer science topics in a six-week summer program for advanced high school students. Topics included graph theory, topology, computer science theory, discrete math, introductory programming in Delphi, and advanced programming with Java and with OpenGL. Worked with math department head Dennis Stewart (dstewart@rockdale.k12.ga.us) and GHP Director Joe Searle (JSearle@doe.k12.ga.us).

Michigan State University, East Lansing, MI 48823

1999-2000

Teaching Assistant—CSE 101, Computing Concepts and Competencies. Led 3 of 60 sections offered each semester. Presented material and helped students with tasks in word processing, spreadsheet design, and website design. Held office hours and graded exams. Worked with head instructor Don Weinschank (weinschan@msu.edu).

Georgia Institute of Technology, Atlanta, GA 30332

2001-2007

Teaching assistant—CS 3500 and 3510, Theory and Algorithms. Graded papers, held office hours, presented homework solutions and led review sessions. Worked for Allison Wolf, Yan Ding, and Saugata Basu.

Teaching assistant—CS 1050, Discrete Math. Graded papers, held office hours, guest lectured. Worked for Andrzej Szymczak.

Teaching assistant—CS 4451 and 3451, Computer Graphics. Graded projects, held office hours, helped design projects, guest lectured, developed solutions. Worked for Andrzej Szymczak and Jarek Rossignac.

Teaching assistant—CS 4480, Digital Video Special Effects. Graded and advised projects, held office hours. Worked for Irfan Essa.

Teaching assistant—CS 4455, Video Game Design. Graded and advised projects, held office hours. Worked for Jeff Wilson and Maribeth Gandy.

Hope College, Holland, MI 49423

1996-1999

German Drill instructor—instructed first-year German students once a week

Math tutor in math drop-in center—tutored random students who needed help in undergrad math courses

RESEARCH AND WORK EXPERIENCE

Georgia Institute of Technology, Atlanta, GA 30332

2002-2003

Research assistant—Graphics and visualization of topology for Andrzej Szymczak (aszymcza@mines.edu) and Greg Turk (turk@cc.gatech.edu)

Fusionary Media, Grand Rapids, MI 49503

1999-2001

Java, ASP, and ColdFusion research and development for Jack Baty (jbaty@fusionary.com)

Michigan State University, East Lansing, MI 48823

2000-2001

Research Assistant—Computational biology and artificial life for Eric Torng (torng@msu.edu) and Charles Ofria

Hope College, Holland, MI 49423

1996-1999

Summer math research program—chaos theory for Tim Pennings (pennings@math.hope.edu), funded by NSF REU

Summer computer science research program—educational visualizations for Herb Dershem (dershem@cs.hope.edu), funded by NSF REU

Research Assistant—typed quizzes, corrected papers, and helped with research for German professor Gisela Strand-Hales (strand@hope.edu)

PUBLICATIONS

J. Vanderhyde and A. Szymczak, "Topological simplification of isosurfaces in volumetric data using octrees," *Graphical Models*, to appear.

A. Szymczak and J. Vanderhyde, "Simplifying the topology of volume datasets: an opportunistic approach," *ACM Transactions on Graphics*, under review.

A. Szymczak and J. Vanderhyde, "Extraction of Topologically Simple Isosurfaces from Volume Datasets," *IEEE Visualization 2003*, pp. 67–74.

H. L. Dershem and J. Vanderhyde, "Java Class Visualization for Teaching Object-Oriented Concepts," *ACM SIGCSE 1998*, pp. 53-57

SERVICE ACTIVITIES

Served as a student volunteer at the SIGCSE 2007 convention

Assisted with new PhD student orientation at Georgia Institute of Technology

Served on executive committee for the grad student chapter of InterVarsity at Michigan State

EXTRA-CURRICULAR ACTIVITIES

Spartasoft Video Game Programming Group (co-founder and secretary), Michigan State University

Alpha Kappa Pi academic fraternity (one of original members, treasurer), Hope College

Hope College Orchestra, Hope College Gospel Choir

North Avenue Presbyterian Church Chancel Choir, Atlanta, GA

ACHIEVEMENTS AND AWARDS

Third in my high school class with GPA 3.9

Hope College Summa Cum Laude, GPA 3.962

Top 100 in Michigan Math Prize Competition (Michigan high schoolers), 1994

National Merit Finalist

First place out of 30 teams in Lower Michigan Math Competition (MIAA colleges)

Scored positively on the Putnam Math Competition, 1995–1998

Phi Beta Kappa Honor Society

Sigma Xi Science Research Honor Society

Pi Mu Epsilon, Math Honor Society

Delta Phi Alpha, German Honor Society