

Andrew G. Scukanec

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Education:

- 2 years of Ph.D. study in Computer Science at Cornell University, 3.40 GPA
- BS in Computer Science at the Georgia Institute of Technology, 3.72 GPA

Certification:

- Sun Certified Programmer for the Java 2 Platform (v 1.2)

Skills:

- Languages: C/C++, Java (including Swing and AWT), Visual Basic, Scheme/Lisp, SML
- Environments: Unix, Linux, Windows 9x/2000/XP, Solaris
- IDEs: Visual Studio, Eclipse and Borland C Builder
- Tools: Jakarta's ANT, JDBC, OpenGL, UML, XSLT and XML, sockets programming
- Courses: C, Java, software engineering, graphics, databases, and networking

Research:**Cornell University**

March '04 - present

Dr. Stephen Marschner

Currently, I am working with Steve Marschner on the problem of accurately and efficiently rendering hair. Hair is incredibly important to the appearance of humans and human-like figures, and rendering it is a very difficult problem due to the many interactions photons experience before reaching our eye. As a potential solution, we and others are investigating using a diffusion approximation to accurately estimate 2nd order and higher scattering.

Georgia Institute of Technology

January '02 – August '02

Dr. Robert Ghrist

Dr. Ghrist and I investigated the possibility of mathematically formalizing the manner in which self-similar robots could move themselves in order to get from one state to a goal state. For instance, we looked at moving a robotic arm with many segments from one position to another as efficiently as possible. My particular role in this project was to write the simulation software that would determine the quickest way to move the robot.

Georgia Institute of Technology
Dr. Jarek Rossignac

August '02 – December '02

Dr. Rossignac was my advisor for a senior research project in which I looked at ways to speed up evaluation of CSG trees. A CSG tree is a particularly useful object for modelers, where the user can specify larger shapes from a set of primitives. They can hierarchically combine these primitives using basic operations like 'intersect', 'union', and 'subtract'. The problem with these trees is that they are very expensive to render as the trees grow large. I worked on trying to prune unnecessary components of the tree, as well as caching information about the tree to speed up subsequent renders.

Work Experience:

Cornell University, Computer Science Department
Graduate Teaching Assistant

August '03 – present

- Teaching assistant for an introductory undergraduate course in graphics. Topics covered ranged from gamma correction and perceptual issues to classic ray tracing and material models.
- Responsibilities included grading, assignment/solution development, holding office hours, and coordinating undergraduate teaching assistants.

Georgia Tech Research Institute
Student Assistant

May '02 – August '02

- I gathered requirements for a custom scripting language, then designed the language and wrote the parser/interpreter in Java using JLex and CUP.
- I maintained code written for a variety of projects in languages ranging from C to Java to Python. The code was used to run a large helicopter simulation and tied into a number of databases to drive the simulation scenario.

Bechtel Savannah River Inc.
Intern/Assistant Developer

June '01 – August '01

- Ported Visual Basic 4 code to Visual Basic 6. Code was used to operate security measures across the site such as badge readers, etc.
- Designed a web interface for an Access Database using ASP, HTML, and VBScript in MS Interdev Studio.

Georgia Tech: College of Computing
Teaching Assistant

January '01 – June '03

- Taught for 5 semesters, amongst CS 1321 (Scheme), CS 1322 (Java) and CS 2130 (C)
- Responsibilities included grading, weekly recitations/labs, meetings with students, semi-weekly training sessions, and writing homeworks and projects.

Activities and Honors:

- Secretary of the Alpha Gamma chapter of Delta Sigma Phi Fraternity
- Member in IEEE
- National Merit Scholar
- 2000 STAR student at Evans High School
- Eagle Scout - Lead troop 643 for 18 mos.