



# danatenneson

## Education

- 2003–2008 **Ph.D. Computer Science**, *Brown University*, Providence, RI, *GPA:4.00/4.00*.
- 2001–2003 **Sc.M. Computer Science**, *Brown University*, Providence, RI, *GPA:4.00/4.00*.
- 1996–2000 **A.B. Computer Science & Mathematics**, *Vassar College*, Poughkeepsie, NY, *GPA:3.85/4.00*.  
Holdeen-Adams Award for Excellence in Computer Science  
Departmental Honors in Computer Science  
General Honors  
Member Phi Beta Kappa, Mu of New York

## Doctoral Thesis

- title *Interpretation of Molecule Conformations from Drawn Diagrams*
- supervisors Andy van Dam, Matthew Zimmt, Pascal Van Hentenryck
- description Molecules are inherently 3D objects that chemists represent on paper and classroom blackboards with a system of 2D notations. Our project, *ChemPad* (<http://www.chempad.org>), allows chemists to sketch molecules in a quick and natural fashion on a Tablet PC and have the corresponding 3D models automatically generated.

## Master Thesis

- title *The Graphics Teaching Tool*
- supervisors Andy van Dam, Anne Spalter
- description Professional graphics software packages such as Photoshop and Maya contain a large and complex set of tools which can overwhelm non-technical, beginning design students. *The Graphics Teaching Tool* <http://graphics.cs.brown.edu/research/gtt/> is a stepping-stone application which distills the essential capabilities of such packages into a small number of pedagogically-oriented tools chosen to help students understand the principles of raster, vector, and 3D graphics.

## Experience

### Industry

- 2003 **Programmer (Contracted)**, *LeapFrogR*, Providence, RI.  
Programmer in Java developing data presentation tools (charts, graphs, etc) for analysis of pharmaceutical sales data. Created and modified Swing GUI widgets to be used with gigabyte-sized data sets. Supervisor: Philip Chen
- 2000–2001 **Game Programmer**, *Genetic Anomalies (THQ)*, Lexington, MA.  
Programmer in C++ and Java developing PC-based collectable card games. Created user interfaces for *WWF: With Authority!* and was a general programmer for patches and expansions for *Star Trek ConQuest Online* and *ChronX*. Supervisor: Michael Johnson.

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- Shortened Resume: <http://www.cs.brown.edu/~dkt/resume.pdf>

## Academia

- 2002–2008 **Graduate Student Researcher**, *Brown University Department of Computer Science*, Providence, RI.  
Team lead and lead programmer for two research projects in educational software (*ChemPad* and *The Graphics Teaching Tool*) using C# and Java. ChemPad is a project within the Microsoft Center for Research on Pen-Centric Computing. Coordinated small teams of part-time undergraduate student programmers and full-time research staff in the production of these applications, which were used in classrooms and released online. Supervisor: Andy van Dam
- 1997–2000 **Undergraduate Programmer/Coach**, *Vassar College Department of Computer Science*, Poughkeepsie, NY.  
Assisted undergraduate students learning a wide variety of computer science concepts including C++, data structures, and assembly language. Taught a class on C++ structs during a professor's absence. Provided on-call support to students during evening hours. Assisted the lead system administrator in installing and maintaining software on a system of approximately 50 Sun Sparc workstations and Macintosh G3's. Supervisors: Greg Priest-Dorman, Nancy Ide, Chris Welty, Brad Richards

## Miscellaneous

- 1996–2008 **Resident Camp Staff**, *Camp Kirby*, Samish Island, WA.  
Worked in a variety of capacities (cabin counselor, archery instructor, program director, roving volunteer) over the years at a rustic summer camp operated by Camp Fire Boys and Girls. Notable responsibilities included teaching campers in groups of six to ten archery safety, organizing all-camp events for up to 150 campers, managing a team of four undergraduate program specialists, and actually reacting to a potential emergency. Supervisors: Carolyn Brown, Jennifer Brown

## Computer Skills

Languages (experienced)	C#, Java, C++	Version Control Systems	Subversion, Source Safe, CVS
Languages (novice)	Scheme, x86 Assembler, C, Visual Basic	Development Environments	Visual Studio, JCreator, Emacs
GUI Toolkits	Windows Forms, Swing	Operating Systems	Windows XP, Vista, & Server 2003, MacOS 5-9, Linux (Debian & Fedora Core)

## Interests & Hobbies

- Games Computer games, board games, tabletop and live action role playing games. Have been involved for a number of years in an active gaming society at Brown University through which I have met and worked with a number of amateur, independent, and professional game designers.
- Children's Education Teaching children in a camp setting. Have served as the outside consultant for a high schooler's senior project.
- Athletics Soccer, archery, cross-country running.
- Computer Assembly Building computers from parts. Maintaining a MythTV free personal video recorder system.

## Publications

William I. Grosky, Robert Zeleznik, Timothy Miller, Andries van Dam, Chuanjun Li, Dana Tenneson, Christopher Maloney, and Joseph J. LaViola. Applications and issues in pen-centric computing. *IEEE MultiMedia*, 15(4):14–21, 2008.

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Anne Morgan Spalter and Dana K. Tenneson. The graphics teaching tool. In *SIGGRAPH '06: ACM SIGGRAPH 2006 Educators program*, page 41, New York, NY, USA, 2006. ACM.

Dana Tenneson. ChemPad: A pedagogical tool for exploring handwritten organic molecules. Master's thesis, Brown University, Providence, RI, May 2005.

Dana Tenneson. Report on the development of ChemPad for teaching organic chemistry students to visualize three-dimensional molecular structures. <http://graphics.cs.brown.edu/research/chempad/report.pdf>, 2005.

Dana Tenneson. ChemPad: Visualizing molecules in three dimensions. In Jane C. Prey, Robert H. Reed, and Dave A. Berque, editors, *The Impact of Tablet PCs and Pen-based Technology on Education, 2007: Beyond the Tipping Point*. Purdue University Press, 2007. Monographs from the 2007 Workshop on the Impact of Pen-Based Technologies on Education (WIPTE).

Dana Tenneson. *Interpretation of Molecule Conformations from Drawn Diagrams*. PhD thesis, Brown University, 2008.

Dana Tenneson and Sascha Becker. ChemPad: Generating 3D molecules from 2D sketches. In *SIGGRAPH '05: ACM SIGGRAPH 2005 Posters*, page 87, New York, NY, USA, 2005. ACM Press.

Dana Tenneson and Anne Spalter. The graphics teaching tool for non-technical students. In *SIGGRAPH '05: ACM SIGGRAPH 2005 Posters*, page 88, New York, NY, USA, 2005. ACM.

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