

# Michael G. Aschenbeck

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## Education:

**University of Minnesota**                      **Minneapolis, Minnesota**                      **2004-Present**

- M.S. in Mathematics, Ph.D. candidate in Applied Mathematics (expected completion: 8/09).
- Advisor: Fadil Santosa. Expected date of completion: August 31, 2009.

**University of St. Thomas**                      **St. Paul, Minnesota**                      **2000-2004**

- B.A. in Mathematics, B.A. in Computer Science

## Experience:

**University of Minnesota: Student of Computer Vision**                      **2006-Present**

- Worked on object recognition problems relating to lung nodule detection in 3D CT scans.
- Applied machine learning techniques such as AdaBoost, classification trees, linear discriminant analysis, principal component analysis, support vector machines, and tensor decompositions to the main task of identifying lung nodules in the images.
- Solved problems such as increasing detection rates while decreasing false detections, dealing with extremely noisy images, using small sample sizes, etc.
- Implemented ideas in Matlab.

**University of Minnesota: Teaching Asst. and Tutor**                      **2004-2008**

- Teaching Assistant for a wide range of undergrad math courses.
- Duties include leading weekly discussions, creating quizzes, grading homework, quizzes, and tests, guiding students, holding office hours, and assigning grades.
- Also tutored students in such classes.

**Motorola: Engineering Intern**                      **Summer 2006**

- Designed algorithms and software to locate two dimensional bar codes on curved surfaces.
- Experimented with several ideas for locating and recognizing key patterns in such bar codes.
- Programmed in Matlab and in C.

**University of St. Thomas: Mathematics Tutor/Researcher**                      **2000-2004**

- Tutored students in college mathematics courses from Algebra to Calculus in several dimensions.
- Researched a model of the propagation of nerve impulses with a faculty member.
- Considered numerical solutions of differential equations for use in an inverse problem.

**General Mills: Statistics Intern**                      **Summer 2003**

- Worked with members of the statistics department to improve an area of the company's online statistical tools.
- Learned and programmed in S-PLUS with an interface to C++ to cut down run time.
- Developed Java Applets that run locally to eliminate the time consuming calculations on server.
- Made updates on the statistic department's web site.

## Computer Skills:

- Operating Systems:                      UNIX/Linux, Windows
- Programming:                      C/C++, Java, Mathematica, Matlab, S-PLUS, R
- Markup/Typsetting:                      HTML, LaTeX, CSS

## Achievements and Activites:

- Served as Vice President of Band Club and was member of Math Club.
- Earned the following scholarships: UST University Scholarship, UST Dean's Scholarship, General Mills Foundation Scholarship, Graco Foundation Scholarship, Danger's Scholarship, USTA/Northern Section Trent Tucker Scholarship, Kopp Family Foundation Scholarship.
- Member of UST tennis team.