

Mark Branson

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Education

Fall 2002 State University of New York, Stony Brook pursuing PhD Mathematics

1998-2003 University of Oklahoma, Norman B.A. Mathematics and B.S. Computer Science

Summa Cum Laude, 3.87 GPA on a four point scale, (4.00 in-major Mathematics, 3.78 in-major Computer Science)

Dean's list in the College of Engineering all five years.

President's list Fall 1998, Spring 2002.

National Merit Scholar.

Member of Tau Beta Pi, The Engineering Honor Society. President 2001-2002, Vice President 2000-2001.

Member of Pi Mu Epsilon.

Served on Mathematics Department Student Advisory Board, 2000-2002.

Twotime recipient of the Richard M. Andree scholarship and recipient of the George McNaught Ewing and Stanley R. Rust scholarships, all from the University of Oklahoma Department of Mathematics.

Presented twice at OU Undergraduate Research Day, once on *Analysis of Regular Isotopies on Torus Knots Based on Projections in 3-Space*, a research project with Dr. Andrew Miller at the University of Oklahoma, and once on *Tabulation of Legendrian Knots by Ambient Isotopy*, a research project done with Dr. Sergei Tabachnikov at The Pennsylvania State University.

Minor in English Literature, with a focus on British Literature.

Fall 2002 The Pennsylvania State University, Mathematics Advanced Study Semesters (MASS) Program

Participated in the MASS program, a semester long intensive Mathematics course for advanced undergraduates. Topics covered were dynamical systems, fractal geometry, topology, number theory, and elliptic curves. In addition, did independent research on Smale's Horseshoe, Kummer's Conjecture, and Legendrian knots.

Received an award in recognition of outstanding research projects.

1996-1998 University of Illinois, Urbana-Champaign, Calculus & Mathematica courses

Course in first and second semester calculus administered over the internet by the University of Illinois.

Experience

- 8/2004-Present *SUNY Stony Brook.* *Teaching Assistant*
Duties include teaching recitation sections, grading student assignments and tests, and holding office hours for student questions.
- 5/2003-7/2004 *NASA Ames Research Center.* *Computer Programmer*
Internship at NASA Ames programming an interface layer for abstraction of communications between a control system and a suite of science instruments. Other tasks included preparing documentation, evaluating instruments for purchase, training other developers in software use, and preparing a mission simulation.
- 2002 *University of Oklahoma.* *Teaching Assistant*
Teaching Assistant for CS 4013, *Artificial Intelligence*.
Work included grading, preparing test questions, answering student questions, and teaching while the professor was absent.
- 2001-2002 *University of Oklahoma* *Research Assistant*
Research Assistant with Dr. David Miller. Application development for PalmOS. Products included a compiler for the Interactive C programming language (used with the Handyboard robotics control board) and a scoring application for Botball, a student robotics competition.
- Summer 2001 *KISS Institute for Practical Robotics* *Computer Programmer*
Application development for PalmOS. Project was a compiler for the NQC programming language, used to control the RCX robotic control board.

Skills

Mathematics coursework in calculus, linear algebra, differential equations, real and complex analysis, topology, numerical analysis, statistics, complex variables, fractal geometry, dynamical systems, number theory, and elliptic curves.

Experience programming with Java, C, C++, LISP, Labview, NQC, Interactive C, and TASM.

Extensive experience with CORBA.

Articles

"Tabulation of Legendrian Knots by Ambient Isotopy", published in THURJ: The Honors Undergraduate Research Journal, Spring 2003. The work discusses the basic features of Legendrian knots and provides tables of the maximal Bennequin number diagrams for each ambient isotopy class up to nine crossings.

Extracurricular Activities

Member of Triangle Fraternity. Have held many and diverse offices, including President, Rush Chairman, Treasurer, and Steward. Active through Triangle in many campus activities and philanthropies.

Eagle Scout in BSA Troop 630, Dupon, IL.

Member of Oklahoma Academic Team.

Attended OU Honors at Oxford Program, Summer 2002. Monthlong stay at Brasenose College, Oxford with coursework in British Literature.

Supernumerary in OU Opera Theatre production of *L'Elisir D'Amore*.