

CURRICULUM VITAE

Xinyu Sun

Home Address

450 Forest Avenue, #E204
Norristown, PA 19401
(610) 239-8073
U.S. Permanent Resident

Temple University

Department of Mathematics
Philadelphia, PA 19122
(215) 204-1655
xsun@math.temple.edu
<http://math.temple.edu/~xysun>

EDUCATION:

- **Ph.D.** (Mathematics) Temple University, Philadelphia, PA April 2004
- **M.A.** (Mathematics) Temple University, Philadelphia, PA 1995
- **B.S.** (Mathematics) Jilin University, Jilin, China 1989

DISSERTATION:

Computer-Assisted and Computer-Generated Research in Combinatorial Games and Pattern-Avoidance

EXPERIENCE:

Research Assistant:

Computer and Information Science, Temple University 2003-2004
Conducting research on *robot mapping and self-localization*. The goal of the NSF-supported project is to determine a mobile robot's position and map its surrounding area by processing information on physical environments acquired through the robot's sensor. Reliable and efficient shape-processing and shape-matching techniques were applied for sophisticated matching of scans.

Teaching:

Temple University, Philadelphia, PA 2002-2003
Taught College Algebra and Trigonometry, and College Mathematics.

Villanova University, Philadelphia, PA 2001
Taught Concepts of Operating Systems in the Computer Science Department.

Temple University Center of Advanced Technology, Philadelphia, PA 2001
Taught introductory Java to students with various backgrounds.

Temple University, Philadelphia, PA 1993-1995
Taught Pre-Algebra and Algebra.

Jilin University, Changchun, China 1990-1993
Taught Advanced Mathematics for non-mathematics major students.

Computer Related:

SPX-VFTIS, Exton August 1995 – August 2002

A global multi-industry Fortune 500 corporation that provides technical and training information; designs, manufactures and markets a wide range of specialty tools, hand-held diagnostic systems and service equipment.

Senior Programmer/Analyst, Application Development

- As a technical team leader, designed, developed and implemented various applications for clients, such as DaimlerChrysler, Ford Motor Company, Honda Motor Company, etc.
- Recruited, trained and supervised two programmers to work on-site for DaimlerChrysler.

B2BStreet.com June 2000 -- August 2000

A leading online marketplace that provides e-commerce solutions for small and mid-size enterprises that allows businesses to access new distribution channels and locate business surplus opportunities worldwide.

Consultant

- Designed, developed, and implemented the online trading site.

PUBLICATIONS:

- On Fraenkel's N -Heap Wythoff's Conjectures (with Doron Zeilberger), to appear in *Annals of Combinatorics*
- New Lower-Bound On The Number of Ternary Square-Free Words, *Journal of Integer Sequence*, Vol. 6 (2003), Article 03.3.2
- Improvements on Chomp, *Integers*, Vol. 2 (2002)
- The Sprague-Grundy Function for Chomp, on-line document
- Wythoff's Sequence and N -Heap Wythoff's Conjectures, submitted
- Building Polygonal Maps from Laser Range Data (with L. J. Latecki, R. Lakaemper, and D. Wolter), submitted

COMPUTER SKILLS:

Experienced in Maple, Java, J2EE, ASP, JavaScript, C/C++, Visual C++/MFC, Visual Basic, MS Access, ORACLE

PROFESSIONAL ACTIVITY:

- **JOURNAL REFEREE:**

- Integers Journal
- Discrete Applied Mathematics

- **INVITED CONFERENCE TALK:**

- On Fraenkel's N -Heap Wythoff's Conjecture, Special Session, Joint Mathematics Meeting, Phoenix, AZ, 2004
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ADDITIONAL INFORMATION:

My work on Chomp is referenced by the recently issued 2nd edition of *Winning Ways for Your Mathematical Plays* by E. R. Berlekamp, J. H. Conway, and R. K. Guy.

REFERENCES:

- Doron Zeilberger, Department of Mathematics, Rutgers University, Piscataway, NJ 08854. zeilberg@math.rutgers.edu,
- Longin Jan Latecki, Department of Computer and Information Sciences, Temple University, Philadelphia, PA 19122. latecki@temple.edu.
- Aaron Robertson, Department of Mathematics, Colgate University, Hamilton, NY 13346. aaron@math.colgate.edu.
- Ray Coughlin, Department of Mathematics, Temple University, Philadelphia, PA 19122. coughlin@math.temple.edu.