

Daniel Štefankovič

Department of Computer Science
The University of Chicago
1100 E. 58th Street
Chicago, IL 60637
(773) 702-1676
stefanko@cs.uchicago.edu
<http://www.cs.uchicago.edu/~stefanko>

Home
5550 South Dorchester, #909
Chicago, IL 60637
(773) 288-8452

Research interests

Theoretical computer science, design and analysis of algorithms, computational topology, applications of the Fourier transform, combinatorics, distributed computing.

Education

The University of Chicago, Chicago, IL, U.S.A. Autumn 1998 - present

Ph.D. student in Computer Science.
Expected completion date: summer 2005,
tentative thesis title: *Algorithms for curves on surfaces.*

Master's degree in Computer Science, awarded 12/2000,
advisor: László Babai, thesis: *Fourier transforms in computer science.*

Comenius University, Bratislava, Slovakia Autumn 1993 - Summer 1998

Magister degree in Computer Science, awarded 6/1998,
advisor: Peter Ružička, thesis: *Multidimensional Interval Routing Schemes.*

Honors and awards

ACM Collegiate Programming Contest World Finals 1996, 12th place (team of 3)
International Olympiad in Informatics 1993, gold medal
International Mathematical Olympiad 1993, bronze medal

Fellowships

Research Intern at Microsoft Research Summer 2002
PCMI/IAS Graduate Summer School in Computational Complexity Summer 2000

Professional Experience

- Technical support for STOC'04 PC.
- Referee for WG'04, CCC'03, WG'03, CCC'02, MFCS'01, WG'99.

Teaching Experience

Research experiences for undergraduates Summer 2003, Summer 2004
TA for REU courses Discrete Mathematics and Linear Algebra taught by professor László Babai at the University of Chicago.

Introduction to WWW-2 (Java) Summer 2001
Lecturer for CS102 at the University of Chicago.

Algorithms Winter 2000, Winter 2001
TA for CS270 taught by professor László Babai at the University of Chicago.

Discrete Mathematics Autumn 1998, Autumn 1999
TA for CS174 taught by professor László Babai at the University of Chicago.

Journal publications

- [1] Marcus Schaefer, Daniel Štefankovič. *Solvability of graph inequalities.* to appear in SIAM J. on Discrete Mathematics.
- [2] Marcus Schaefer, Daniel Štefankovič. *Decidability of string graphs.* J. Comput. System Sci. 68 (2004), no. 2, p. 319–334 (a preliminary version appeared in STOC 2001.)
- [3] M. Schaefer, E. Sedgwick, D. Štefankovič. Marcus Schaefer, Eric Sedgwick, Daniel Štefankovič. *Recognizing string graphs in NP.* J. Comput. System Sci. 67 (2003), no. 2, p. 365–380 (a preliminary version appeared in STOC 2002.)
- [4] László Babai, Péter Frankl, Samuel Kutin, Daniel Štefankovič. *Set systems with restricted intersections modulo prime powers.* Journal of Combinatorial Theory A, 95(1):39–73, 2001.
- [5] Daniel Štefankovič. *Acyclic orientations do not lead to optimal deadlock free packet routing algorithms.* Information Processing Letters 73(5-6):221-225, 2000.
- [6] Peter Ružička, Daniel Štefankovič. *On the complexity of multidimensional routing schemes.* TCS 254(2):255-280, 2000.
- [7] Rastislav Kráľovič, Peter Ružička, Daniel Štefankovič. *The complexity of shortest path and dilation bounded interval routing.* TCS 234(1-2):85–107, 2000. (A preliminary version appeared at Europar 1997.)

Conference publications

- [1] Peter Hui, Marcus Schaefer, Daniel Štefankovič. *Train tracks and confluent drawings*. Graph Drawing, 2004.
- [2] László Babai, Daniel Štefankovič. *Simultaneous diophantine approximation with excluded primes*. SODA 2004, p. 1123–1129.
- [3] László Babai, Amir Shpilka, Daniel Štefankovič. *Locally testable cyclic codes*. FOCS 2003, p. 116–125.
- [4] Marcus Schaefer, Eric Sedgwick, Daniel Štefankovič. *Recognizing string graphs in NP*. STOC 2002, p. 1–6.
- [5] Marcus Schaefer, Daniel Štefankovič. *Decidability of string graphs*. STOC 2001, p. 241–246.
- [6] Marcus Schaefer, Eric Sedgwick, Daniel Štefankovič. *Algorithms for normal curves and surfaces*. COCOON 2002, p. 370–380, 2002.
- [7] Rastislav Kráľovič, Peter Ružička, Daniel Štefankovič. *The complexity of shortest path and dilation bounded interval routing*. Euro-Par 1997, LNCS 1300, p. 258–265.

Submitted papers

- [1] Ivona Bezáková, Daniel Štefankovič, Vijay Vazirani, Eric Vigoda. *Approximating the permanent in $O^*(n^7)$ time*. Submitted.
- [2] Marcus Schaefer, Eric Sedgwick, Daniel Štefankovič. *Computing geometric intersection numbers in polynomial time*. Submitted.
- [3] Bruno Codenotti, Daniel Štefankovič. *On the computational complexity of Nash equilibria for $(0,1)$ -bimatrix games*. Submitted.

Talks

Simultaneous diophantine approximation with excluded primes.
SODA, January 2004,
MIT, Theory of Computation Seminar, November 2003.

Locally testable cyclic codes.
DePaul, Theory Seminar, September 2003,
FOCS, October 2003.

Recognizing string graphs in NP.
DIMACS Workshop on Geometric Graph Theory, October 2002,
STOC, May 2002,
University of Wisconsin - Madison, Theory Seminar, February 2002,
Midwest Theory Day, December 2001,

DePaul, Theory Seminar, November 2001.

Decidability of string graphs.

STOC, July 2001,

DePaul, Theory Seminar, February 2001.

Midwest Theory Day, December 2000.

The complexity of shortest path and dilation bounded interval routing.

Europar, August 1997.

Programming skills

C, C++, Java, Maple, Mathematica, Pascal.

Personal

Citizenship: Slovak Republic.

US visa status: permanent resident.

References

Professor László Babai
Department of Computer Science
The University of Chicago
1100 E. 58th Street
Chicago, IL 60637
(773) 702-3486
laci@cs.uchicago.edu
<http://people.cs.uchicago.edu/~laci/>

Professor Marcus Schaefer
School of CTI
DePaul University
243 South Wabash Avenue, Suite 401
Chicago, IL 60604
(312) 362-5244
mschaefer@cs.depaul.edu
<http://ovid.cs.depaul.edu/>

Professor János Simon
Department of Computer Science
The University of Chicago
1100 E. 58th Street
Chicago, IL 60637
(773) 702-3488
simon@cs.uchicago.edu
<http://people.cs.uchicago.edu/~simon/>

Professor Eric Vigoda
College of Computing
Georgia Institute of Technology
801 Atlantic Drive
Atlanta, GA 30332-0280
(404) 894-9846
vigoda@cc.gatech.edu
<http://www.cc.gatech.edu/~vigoda/>