Debajyoti Bera, PhD

Assistant Professor, IIIT-Delhi, New Delhi, India

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Research Interests

Primary interests are complexity theory, quantum computing and algorithms.

Other academic interests are in information & system security, computer networks and databases. I am also interested in the applying computer science theory in basic sciences and economics. Besides academic interests, I maintain a parallel interest in software development, specifically open source.

Education

PhD in Computer Science (August 2009)
Boston University, Boston, USA
Dissertation: _Quantum circuits: Power and limitations_ (Advisor: Prof. Steve Homer)

B.Tech. in Computer Science and Engineering (May 2002)
Indian Institute of Technology (IIT), Kanpur, India
Undergraduate Thesis: _Quantum Algorithms_ (Advisor: Prof. Manindra Agrawal)

Publications

- **Small Depth Quantum Circuits** in _ACM SIGACT News_, 38(2),2007
- **Efficient Universal Quantum Circuits** in _Quantum Information and Computation_, 10(1&2),2010
  - Preliminary version in Springer LNCS for _Proceedings of COCOON_ 2009
- Monograph **Quantum Circuit Complexity: Low Depth Quantum Circuits: Power and Limitations** by _LAP LAMBERT Academic Publishing_, 2010
- **A lower bound method for quantum circuits** in _Information Processing Letters_, 111(15), 2011
- **On the Impact of Seed Scheduling in Peer-to-peer Networks** in _Computer Networks_ 55(15), 2011.
- **Preserving Location Privacy for Continuous Queries on Known Route** in Springer LNCS for _Proceedings of ICISS_ 2011

Work and Teaching Experiences

- Since January 2010: Assistant Professor (tenure track), IIIT-Delhi, New Delhi, India.
  - Courses taught: UG Algorithms, Advanced Algorithms, Randomised Algorithms
- Summer 2009: Internship with the Availability group in ITA Software, Inc., Cambridge, USA.
- 2007-2009: Lead developer and maintainer of the open source Beagle project - one of the major desktop search tools for Linux (http://beagle-project.org).
  - Since 2002: Developer and contributor to several other FOSS projects.
- Summer 2007: Mentor for Google Summer of Code 2007 for the Beagle project.
- Summer 2006: Internship with the Virtual Center group in VMware Inc., Palo Alto, USA.
- 2003-2009: Teaching Fellow at Boston University
  - Introduction to programming (C++ and Java), Data structures (in Java and C++), Discrete mathematics, Algebraic algorithms, Probability in computing, Undergraduate algorithms
- 2002: Software developer at Adobe Systems India Pvt. Ltd.
- Summer 2001: Internship with the OASYS group in GMD-IPSI, Darmstadt, Germany.

Technical Expertise

Platforms:	Unix (Linux, Solaris), Windows, Mac (OS9, OSX)
Languages:	Most modern languages including C,C++,C#,Java,VB,Python
Web technologies:	PHP,XML,HTML,Javascript,CSS,AJAX

Awards/Honors

- Awarded Best Teaching Fellow in Computer Science Dept., Boston University in 2007.
- Recipient of NTSE (National Talent Search Examination) Scholarship (1996) awarded by National Council of Education, Research and Training, India.

Hobbies: Photography, reading, poetry, sketching, calligraphy, software development.