Esha Ghosh

CONTACT INFORMATION	Institute of Mathematical Sciences, Chennai Office F16/A, CIT Campus, Chennai 600113, Tamil Nadu, India.	*Mobile:* +91-9566269618 *Office* +91-44-2254-3281 *E-mail:* esha@imsc.res.in, esha@cse.iitm.ac.in

PERSONAL DETAILS

- Gender: Female
- Date of Birth: 11 August, 1987
- Citizenship: Indian

ADDRESS

Present Address:
Flat number 6, Door Number 15,
Srinivasamurti Avenue,
Gorur Apartments, Adyar, Chennai 600020
Tamil Nadu, India.

Permanent Address:
Santam, Flat number-16
22/1B Ballygunge Station Road,
Kolkata-700019,
West Bengal, India.

RESEARCH INTERESTS

Graph theoretic, Approximation, Distributed, Randomized, Parallel, Fixed-Parameter and Dynamic graph algorithms, Metatheorems(Formulation of graph theoretics problems in Logic), Algorithmic Game Theory, Theoretical aspects of Compiler Design and optimization and applications of dynamic graph algorithms in biological systems and complex networks.

CURRENT RESEARCH

Fixed Parameter Algorithms. In particular, methods of improving kernels and designing fixed parameter algorithms for Π-Completion and Deletion problems on graphs.

COURSES TAKEN FOR MS

- Mathematical Concepts for Computer Science
- Advanced Data Structures and Algorithms(with Lab)
- Topics in Design and Analysis of Algorithms
- Basic Graph Theory
- Advances in Complexity Theory
- Parallel and Randomized Algorithms

EDUCATIONAL BACKGROUND

M.S, *Computer Science and Engineering*, August 2009-July 2011

- Institute: Indian Institute of Technology, Madras
- CGPA: 9.60/10.00
- Advisor: Professor C.Pandu Rangan
- Area of Study: Graph Theoretic Algorithms
- Thesis Topic: Hamiltonicity and Longest Path Problem on Special Classes of Graphs

B.Tech, *Computer Science and Engineering*, August 2005-July 2009

- Institute: RCC Institute of Information Technology, affiliated to West Bengal University of Technology.
- CGPA: 9.10/10.00

Higher Secondary, July 2003-July 2005

- Institute: Patha Bhavan, affiliated to West Bengal Council of Higher Secondary Education

- Percentage: 88.80

Secondary, July 2001-July 2003

- Institute: Patha Bhavan, affiliated to West Bengal Board of Secondary Education
- Percentage: 84.00

PROFESSIONAL
EXPERIENCE

- Visiting Research Fellow at Indian Statistical Institute, Chennai Centre.
  July 2011-December 2011

- Interned with Distributed Systems group at Corporate Research and Technologies India Business Unit of Siemens Information Systems Limited, Bangalore. Worked on Independent Spanning Trees problem on Optical Transpose Interconnect System or OTIS graphs and Easy Mass Installation of Hadoop cluster. *August 2010-January 2011*

PUBLICATION

- Esha Ghosh, N. S. Narayanaswamy, and C. Pandu Rangan. A Polynomial Time Algorithm for Longest Paths in Biconvex Graphs. In: *Proceedings of Workshop on Algorithms and Computation(WALCOM) 2011*, pp.191-201, LNCS 6552, Springer-Verlag 2011.

- Esha Ghosh, Sudeshna Kolay, Mrinal Kumar, Pranabendu Misra, Fahad Panolan, Ashutosh Rai, and M.S. Ramanujan. Faster Parameterized Algorithms for Deletion to Split Graphs. To appear in: *SWAT 2012*, pp.107–118, LNCS 7357, Springer, Heidelberg 2012.

PREPRINTS

Esha Ghosh, Subhas K. Ghosh, and C. Pandu Rangan. On Fault Tolerance and Hamiltonicity of Optical Transpose Interconnection System of Non-Hamiltonian Base Graphs. (Under review, available on archive)

CONFERENCES
ATTENDED

- Workshop on Algorithms and Computation(WALCOM), 18-20th February, 2011
- Foundations of Software Technology and Theoretical Computer Science(FSTTCS), 15-18th December 2010
- International Symposium on Parametarized and Exact Computation(IPEC), 13-15th December 2010
- FSTTCS, 15-17th December 2009
- International Conference on Recent Trends in Graph Theory and Combinatorics(ICRTGC), a satellite conference of ICM, 12-15th August, 2010

SCHOOLS AND
WORKSHOPS
ATTENDED

- Workshop on Recent Advances in Data Structures, 17-20th December, 2011 at IMSc (On Invitation)
- Pseudorandomness Workshop at CMI, Chennai, 22-25th August, 2011 (On Invitation)
- The 2nd Annual Mysore workshop in Theoretical Computer Science, 5-9th May 2011 (On Invitation)
- MSR-IMPECS 2011 School on Approximability, 5-9th January 2011, at IISc, Bangalore (On Invitation)
- IMPECS School on Parametarized and Exact Computation,11-12th December 2010, at IMSc, Chennai
- Attended a workshop on Mathematica at Wolfram Research-Mathematica India Tour(2010) at IIITB, Bangalore
- Microsoft Research Theory Day, 2nd January, 2010

PROJECTS

- B.Tech final year Project on "Map Projection Converter" using Microsoft's Visual Basic.Net express edition, undertaken at ISI, Kolkata, India.

  This project mainly dealt with the design of a software tool for inter-conversion of Geo-spatial data on the basis of different Map-projections and Datum specifications. The software can handle inter-conversion of spatial coordinates between fourteen map projection systems, namely, Azimuthal, Cassini, Eckert, UTM etc. alongwith the two hundred and thirty datum conversions.

- Project on "Human Resource Management system", undertaken as a part of summer training at Data Core India Pvt. Ltd. using Oracles Reports 6i and Oracle 9i.
- Project on "Computerized Examination Evaluation system" Undertaken as a part of Infosys Technologies Limited (NASDAQ: INFY), Campus Connect Program using C programming language.

ACHIEVEMENTS
- All India Gate (2009) Rank 622 with Percentile 98.5
- Topper in Computer Science and Engineering department in B.Tech(2005-2009)
- Topped the module on Analysis of Algorithms in Infosys Campus Connect Foundation Program conducted by Infosys Technologies Ltd (NASDAQ: INFY), July-Oct 2007
- Won the first prize in Infosys Campus Connect Soft Skill Program conducted by Infosys Technologies Ltd (NASDAQ: INFY), Feb-May 2007
- National Merit Scholar for Higher Secondary examination, 2005

TEACHING ASSITANCESHIP
- CS618:Advanced Topics in Formal Languages and Automata at IIT Madras
- CS617:Parallel and Randomized Algorithm at IIT Madras

TECHNICAL SKILLS
- Programming: C, C++, JSP, JavaScript, Servlet
- Mathematical Packages: Mathematica and Matgraph(Matlab)
- Database Packages: Oracle 9i, Oracle 10g
- Computer Applications: LaTeX, most common productivity packages for Windows and Linux platforms
- Operating Systems: Microsoft Windows family and Linux

EXTRA CURRICULAR ACTIVITIES
- Participated in State level Inter College Competition "Transition 2008" organized by Cognizant (NASDAQ: CTSH) in panorama division and presented a survey-paper on GEO-Engineering A Solution to Global Warming (2008)
- Completed Sangeet Pravakar(graduation) in Kathak dance from Prayag Sangeet Samiti, Allahabad
- Write in different literature magazines

REFERENCES AVAILABLE TO CONTACT
Dr. C. Pandu Rangan (e-mail: prangan55@gmail.com; phone: +91-44-2257-5387)
- Professor, Computer Science and Engineering Department, IIT Madras

Mr. Subhas K. Ghosh (e-mail: subhas.ghosh@siemens.com)
- Project Lead at Siemens Information Systems Limited