Shoumik Roychoudhury

CONTACT INFORMATION

Room 334,
Science Education and Research Center
1925 N. 12th Street
Philadelphia, PA 19122
USA

Phone: +1(856) 905-4890
*E-mail:*shoumik.rc@gmail.com
shoumik.rc@temple.edu

RESEARCH INTEREST

Machine learning, predictive modeling, spatio and temporal data mining

EDUCATION

Temple University, Philadelphia, PA, USA

Doctor of Philosophy, Computer and Information Science, Aug 2012 - present.

- Research Area: Spatio and temporal data mining, Social Network Analysis, Health informatics
- Course work: Programming Techniques, Text Mining, Social Network Analysis, Machine Learning, Data Mining and Knowledge Discovery, Statistical Methods, Design and Analysis of Algorithms and Distributed Systems

Masters of Science, Electrical and Computer Engineering, Dec 2011

- Research Area: Moving Object Tracking, Thermal Video Analysis, Human body pose recognition
- Thesis Topic: *Tracking Human in Thermal Vision using Multi-feature Histogram*
- Course work: Digital Signal processing, Engineering Analysis, Digital Image Processing, Artificial Intelligence, Probability and Random Process.

West Bengal University Of Technology, Kolkata, WB, India

Bachelors of Technology, Computer Science and Engineering, August 2008

- Senior Design Topic: *Message Security using Steganography*
- Area of Study: Computer Science
- Course work: Operating Systems, Database Management Systems, Theory of Computation and Automata, Compiler design, Engineering Mathematics, Artificial Intelligence, Microprocessors, Digital Electronics, Computer Architecture and Organization, Computer Networks.

ACADEMIC PROJECTS AND PRESENTATIONS

Temple University, Philadelphia, PA, USA

- A rule based expert system to control the traffic signal for an over-saturated intersection

- Digital Image Segmentation Using Matlab

- Early prediction of spatio-temporal events

- Paper Presentation: Fuzzy Logic

- Poster Presentation: Vision System for Driver Assistance, Tracking Moving Objects in Thermal Vision, Hospital Corners and Wrapping Patients in Markov Blankets

- Talk: Models for evolving networks

- Talk: Mining Data Streams

- Talk: Machine learning in Distributed environment

West Bengal University Of Technology, Kolkata, WB, India

- Message Security using Steganography

Indian Statistical Institute, Kolkata, WB, India

- Identification of Recombinant DNA Sequences and Crossing over Points Using Computational Algorithms

PUBLICATIONS

- Mirowski, T., **Roychoudhury, S**., Zhou, F., Obradovic, Z. "Predicting Poll Trends using Twitter and Multivariate Time-series Classification," *Proc. 8th Int'l Conf. Social Informatics (SocInfo)*,Seattle, WA, Nov. 2016.

- **Roychoudhury, S**., Ghalwash, M., Obradovic, Z. "False Alarm Suppression in Early Prediction of Cardiac Arrhythmia,"*Proc. 15th IEEE International Conference on Bioinformatics and Bioengineering*, Belgrade, Serbia, Nov. 2015.

- Ramljak, D., Davey, A., Uversky, A., **Roychoudhury, S**., Obradovic, Z. "Casting a Wider Net: Data Driven Discovery of Proxies for Target Diagnoses,"*AMIA 2015 Annual symposium*, San Francisco, Nov. 14 - 18 2015

- Ramljak, D., Davey, A., Uversky, A., **Roychoudhury, S**., Obradovic, Z. "Hospital Corners and Wrapping Patients in Markov Blankets," *4th Workshop on Data Mining for Medicine and Healthcare*, 2015 SIAM

- **Shoumik Roychoudhury** and Seong G. Kong. Tracking Moving Objects in Thermal Vision - A Kernel Based Approach. *US-Korea Conference on Science, Technology and Entrepreneurship(UKC)*, August 2011.(Oral Presentation)

TECHNICAL
SKILLS

Platform: Linux, Windows
Programming Languages : C, C++, Java, Python, Matlab
Scripting Tools: HTML, LATEX

WORK
EXPERIENCE

Temple University, Philadelphia, PA, USA Research Assistant   January 2013 - present

US Dept. of the Navy, Office of Naval Research
Auxialiary System Sensor Fusion (subcontract to Technical Documentation Inc.)

- Identifying informative sensors for predicting a nonfunctional sensor or a subsystem.
- Identifying informative sensors for prediction when some sensors are unobserved.
- False alarm suppression with minimal true alarm suppression for early prediction of complex events.

National Science Foundation (NSF) funded BIGDATA project.

- Temporal pattern discovery in large scale spatio-temporal evolutionary biological datasets.

Defense Advanced Research Projects Agency (DARPA) GRAPHS funded Prospective Analysis of Large and Complex Partially Observed Temporal Social Networks

- Data driven approach to discover proxies for target diagnosis from large scale hospital discharge records databases.

Teaching Assistant   September 2009 - December 2015
- Electrical Engineering Science Lab 1   September 2009 - December 2009
- Classical Control System Lab   January 2010 - May 2010
- Signals(Recitation)   September 2010 - December 2010
- Digital Circuit Design Lab   January 2011 - May 2011
- Math for a Digital World(Recitation)   September 2012 - May 2013
- Mathematical Concepts in Computing II(Recitation)   January 2015 - December 2015

AWARDS AND SCHOLARSHIPS   SIAM International Conference on Data Mining (SDM14) Student Travel Award

REFERENCES   Dr. Zoran Obradovic(PhD Advisor)
Professor and Director, Center for Data Analytics and Biomedical Informatics Department of Computer and Information Science
Temple University
Philadelphia, PA

Dr. Saroj Biswas
Professor, Department of Electrical and Computer Engineering
Temple University
Philadelphia, PA