Sharmili Roy roy.sharmili@gmail.com

EDUCATION

National University of Singapore — Singapore
PhD in Computer Science — Jan 2010-Jan 2014
Advisor: Dr. Michael S. Brown

My PhD work was about designing tools to solve real world problems faced by radiologists and biomedical scientists. I have worked on designing systems such as 3D animated radiological reporting framework, content-based image retrieval for liver cancer and gene mapping assistant for genetically modified mice.

Indian Institute of Science — Bangalore, India
MSc(Engg.) in Communication Networks — 2004-2006
Thesis on dynamic pricing of network services

University of Delhi — Delhi, India
Bachelor of Engg. in Electronics and Communication — 2000-2004

INTERNSHIPS/ TRAININGS

Agency for Science, Technology and Research (A*STAR) — Singapore
Internship on Feature Design and Image-based Medical Data Retrieval — Feb 2013-Dec 2013

ETH Zurich — Zurich, Switzerland
Summer School on Biomedical Image Acquisition and Processing — Sep 2013

National Institute of Informatics — Tokyo, Japan
Internship on Deformity prediction in Transgenic Mouse Images — Aug 2012-Jan 2013

Ecole Cetrale de Paris — Paris, France
Summer School on Biomedical Image Analysis — Jul 2012

RESEARCH INTERESTS

Pattern detection, modeling and classification, algorithm design for user-oriented real-world problems, data visualization, image-based content retrieval systems.

WORK EXPERIENCE

Research Fellow at Clinical Imaging Research Centre — Singapore
Joint venture between A*STAR and National University of Singapore — Aug2014-Present

My present research is about Image-based mid-therapy response assessment for cancers in the pelvis such as prostate, cervix, rectum and in the head and neck region. This mainly requires building registration and segmentation tools and designing image-based features that correlate to clinical therapy outcomes.

Research Assistant at School of Computing — Singapore
National University of Singapore — Jan2014-Jun2014

Wireless Engineer at Wireless Monitoring Organization — New Delhi, India
Ministry of Communication and IT, **Govt. of India** — 2008–2009

Analog Design Engineer at Freescale Semiconductor India Pvt. Ltd. — Noida, India 2006-2008

TEACHING EXPERIENCE

Tutor, CS2105, Computer Networks — Singapore
School of Computing, National University of Singapore — Jan2013-Apr2013

LANGUAGES/ TOOLS

MATLAB, C/C++, ITK, VTK, DCMTK, Nokia Qt, Haskell, LaTeX.

AWARDS AND

The **Google Anita Borg Memorial Scholarship** — 2013
Trainee Research Award for best informatics abstract at RSNA'12 — 2012
All India Rank 2, Indian Engineering Services (IES) Exam — 2006
University Rank 1, Year 1 and 3 of Bachelor of Engineering — 2000, 2003
Institute **Academic Merit Scholarship** — 2000–2004

GRANTS

National University Cancer Institute, SGD 60,000 — 2015

Early evaluation of treatment response to Sorafenib in Hepatocellular Carcinoma patients using multimodality PET/MR imaging.

SELECTED PUBLICATIONS

Journal

[J-1] Roy S., Chi Y., Jimin L., Brown M. S., Venkatesh S. K., "Three-Dimensional Spatio Temporal Features for Fast Content-based Retrieval of Focal Liver Lesions," *IEEE Transactions on Biomedical Engineering* ***(IEEE TBME)*** Jun 2014

[J-2] Roy S., Brown M. S., Shih G.L., "Visual Interpretation with Three-Dimensional Annotations (VITA): Three-Dimensional Image Interpretation Tool for Radiological Reporting," *Journal of Digital Imaging* **(JDI)**, Aug 2013

Conference/Workshop

[C-1] Roy S., Liang X., Kitamoto A., Tamura M., Shiroishi T., Brown M. S., "Phenotype Detection in Morphological Mutant Mice using Deformation Features," *Medical Image Computing and Computer Assisted Intervention,* **(MICCAI'13)**, Sep 2013 **(Winner of Student Travel Award)**

[C-2] Roy S., Brown M. S., Shih G.L., "Automatic 3D Volume Extraction from 2D Annotations," *Radiological Society of North America* **(RSNA'12)**, Nov 2012 **(Winner of Trainee Research Award)**

[C-3] Roy S., Brown M. S., Shih G.L., "Retina Displays: Image Interpolation Methods for Resizing Medical Images for Tablets," *Radiological Society of North America* **(RSNA'12)**, Nov 2012 **(Invited for Presentation at RSNA Mobile Connect)**

[C-4] Roy S., Yao M., Brown M. S., Shih G.L., "Visual Interpretation with Three-Dimensional Annotations (VITA): Open Source Automated 3D Visual Summary Application Using AIM (Annotation Imaging Markup) Enabled PACS Based On Radiologist Annotations," *Radiological Society of North America* **(RSNA'11)**, Nov 2011

[C-5] Kuri J., Roy S., "Pricing Network Services: A New Perspective," *Proceedings of the IEEE International Conference on Wireless Communications, Networking and Mobile Computing* **(IEEE WICOM'07)**, Sep 2007