Aruni RoyChowdhury

Contact Information

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Research Interests

Computer Vision: face recognition, fine-grained recognition, deep learning.

Education

University of Massachusetts, Amherst

- MS/PhD student in Computer Science. *2013–current.*
  - ❑ Advisors: Erik Learned-Miller and Subhransu Maji.

West Bengal University of Technology, India

- B.Tech from Heritage Institute of Technology, Kolkata. *2009–2013.*

Projects & Experience

University of Massachusetts, Amherst

- *Research Assistant (Sep. 2014 – current):* Face recognition project under IARPA's Janus program.
  - ❑ Advisor: Erik Learned-Miller.
- *Synthesis Project (Sep. 2015 – May 2016):* Distinguishing weather phenomena from bird migration patterns in radar imagery.
  - ❑ Reader (Ecological computing): Daniel Sheldon.
  - ❑ Readers (Vision): Erik Learned-Miller and Subhransu Maji.

The Mathworks, Inc.

- *Internship (Jun.–Aug., 2014):* Implementing a face recognition demo at the Computer Vision System Toolbox (CVST) Team.
  - ❑ Mentors: Witek Jachimczyk and Dima Lisin.

Indian Statistical Institute, Kolkata

- *Internship (Dec., 2011 – Jul., 2013):* Scene text detection and online handwriting recognition.
  - ❑ Mentors: Ujjwal Bhattacharya and Swapan K Parui.

Variable Energy Cyclotron Center, Dept. of Atomic Energy (India)

- *Internship (Jun.–Jul., 2012):* Analysis of event data using parallel Map-Reduce algorithm with functional programming.
  - ❑ Mentor: Amitava Ray

Publications

1. Kevin Winner, Garrett Bernstein, Andrew Farnsworth, Aruni RoyChowdhury and Dan Sheldon. ***Radar Analysis of Bird Migration***. International Conference on Computational Sustainability (Comp-Sust), 2016.
2. Aruni RoyChowdhury, Daniel Sheldon, Subhransu Maji and Erik Learned-Miller. ***Distinguishing Weather Phenomena from Bird Migration Patterns in***

Radar Imagery. CVPR workshop on Perception Beyond the Visual Spectrum (PBVS), 2016.

3. Aruni RoyChowdhury, Tsung-Yu Lin, Subhransu Maji and Erik Learned-Miller. ***One-to-many face recognition with bilinear CNNs***. Winter Conference on Applications of Computer Vision (WACV), 2016.
4. E Learned-Miller, G Huang, A RoyChowdhury, H Li, G Hua. ***Labeled Faces in the Wild: A Survey***. Advances in Face Detection and Facial Image Analysis, Springer Heidelberg, 2016 *(invited book chapter)*.
5. Tsung-Yu Lin, Aruni RoyChowdhury and Subhransu Maji. ***Bilinear CNN Models for Fine-grained Visual Recognition***. International Conference on Computer Vision (ICCV), 2015 *(oral)*.
6. D Dutta, A Roy Chowdhury, U Bhattacharya, SK Parui. ***Stroke level user-adaptation for stroke order free online handwriting recognition***. International Conference on Frontiers in Handwriting Recognition (ICFHR), 2014.
7. D Dutta, A Roy Chowdhury, U Bhattacharya, SK Parui. ***Building a Personal Handwriting Recognizer on an Android Device***. International Conference on Frontiers in Handwriting Recognition (ICFHR), 2014.
8. A Roy Chowdhury, U Bhattacharya, SK Parui. ***Scene text detection using sparse stroke information and MLP***. International Conference on Pattern Recognition (ICPR), 2012.
9. A Roy Chowdhury, U Bhattacharya, SK Parui. ***Text detection of two major Indian scripts in natural scene images***. ICDAR Workshop on Camera-Based Document Analysis and Recognition (CBDAR), 2011.

Teaching Experience

Summer	2015	Student Mentor, Research Experience for Undergraduates (REU)
Spring	2014	Teaching Assistant, CS 121: Introduction to Computing
Fall	2013	”

Graduate Coursework

- ❑ Computer Vision
- ❑ Machine Learning
- ❑ Probabilistic Graphical Models
- ❑ Software Engineering
- ❑ Algorithms
- ❑ Operating Systems
- ❑ Deep Learning
- ❑ Real Analysis

Programming Skills

Proficient: C, Java, MATLAB, MatConvNet.
Intermediate: C++, Python, OpenCV, Intel TBB, Java RMI, Android SDK, F#.NET.

Service

Professional Service:
- Reviewer: Trasactions on Pattern Analysis and Machine Intelligence (TPAMI).
- Graduate Senate representative, UMass Amherst. *Spring, 2014*.
- Founder-member and Webmaster, ACM Student Chapter, Heritage Inst. of Tech., Kolkata. *2012–2013*.

Social Service:
- Vice-President, Rotaract Club of Heritage Inst. of Tech., Kolkata. *2012–2013*.