

RONI CHAKRE

*Department of Computer Science
Faculty of Mathematical Sciences
University of Delhi*

EDUCATION

2013-15: Master of Technology (Information Systems), Delhi Technological University

Thesis Title: “3D-Difference theoretic texture features along three orthogonal planes for dynamic face recognition”

Abstract: A new set of spatio-temporal features called the 3D-Difference Theoretic Texture Features (3D-DTTF) was defined for dynamic face recognition from video blocks. The Difference Theoretic Texture Features (DTTF) is a low-dimensional 2D scale-, rotation- and illumination-invariant texture descriptor set which reported high accuracies for texture recognition experiments. The 3D-DTTF extends the gray-level difference statistics along the Front (F), Front-Diagonal Horizontal (FDH) and Front-Diagonal Vertical (FDV) directions in addition to the existing Horizontal (H), Vertical (V) and Diagonal (D) directions in the two-dimensional DTTF. The new 3D features are affine-invariant similar to their 2D counterpart, a property useful for recognizing faces in a video irrespective of the change in facial expressions. Comparisons with state of the art methods on a benchmark database for dynamic face recognition yields the highest accuracy for the proposed 3D feature set.

2009-13: Bachelor of Technology (Information Technology), Sikkim Manipal Institute of Technology

Project Title: “An experimental study on Image De-noising filters”

Paper Abstract: Images are prone to noise induction where noise can be introduced by the medium of transfer or during image acquisition. Different filtering procedures are used for noise reduction to improve the visual quality and understandability of images. In this study, we have applied four types of filters on a particular image and carried out comparative study of five different quality measures. Five filter quality measures were considered to compare the performances of the filters. The results show that Median filter is ideal for removal of Salt-and-Pepper noise. Median, Gaussian and Wiener produced better results for all the four noise types than the Average filter.

RESEARCH INTEREST

- Digital Image Processing, Video Processing, Biometrics, Pattern Recognition, Soft Computing and Computer Vision.
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PUBLICATIONS

- Seba Susan, Roni Chakre: "3D-Difference Theoretic Texture Features for Dynamic Face Recognition." *2016 International Conference on Computational Techniques in Information and Communicational Technologies (ICCTICT)*. IEEE, 2016.
 - Roni Chakre, Pooja Thapa, Rispana Siddharth, Udayan Baruah: "An Experimental Study on Image De-noising Filters", *International Journal of Emerging Technology and Advanced Engineering*, Volume 3, Issue 2, February 2013.
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TEACHING EXPERIENCE

- **Jan 2018 - Present** : Assistant Professor(Adhoc) at Delhi University in the Computer Science Department.
Subjects Taught: Compiler Design (Theory & Lab)
- **Jan 2017 - May 2017** : Assistant Professor(Adhoc) at Delhi University in the Computer Science Department
Subjects Taught: Database Applications (Theory & Lab), Data Communications & Computer Networks (Theory & Lab)
- **July 2016 – Dec 2016** : Assistant Professor(Contractual) at North Eastern Regional Institute of Science and Technology in the Computer Science and Engineering Department.
Subjects Taught: Computer Organization and Architecture (Theory), C/C++ (Theory and Lab)
- **August 2015 – June 2016:** Guest faculty at the Delhi Technological University in the Computer Science and Engineering Department.
Subjects Taught: Digital Image Processing(Theory), Software Engineering(Theory), C Programming(Lab), Computer Graphics(Lab).
- **August 2013 - May 2015:** Teaching assistant during the Masters program at the Delhi Technological University.
Subjects Taught: HTML(Lab), Software Engineering(Lab)

RESEARCH EXPERIENCE

- **August 2013 – July 2015:** 2 years MTech research scholar at the Delhi Technological University in the field of Digital Image Processing.

SCHOLARSHIP/EXAMS QUALIFIED

- Graduate Aptitude Test in Engineering (GATE 2008) for Post Graduate scholarship awarded by All India Council of Technical Education (AICTE)
 - University Grants Commission-National Eligibility Test (UGC-NET) December 2015 for Assistant Professor
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