

ANAM USMAN

PEC Number : COMP/5293

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ACADEMICS

College of Electrical & Mechanical Engineering (EME), National University of Sciences and Technology (2011-2013)

Masters in Computer Engineering (CGPA: 4.00/4.00)

College of Electrical & Mechanical Engineering (EME), National University of Sciences and Technology (2004-2008)

Bachelors in Computer Engineering (CGPA: 3.68/4.00)

PAF Intermediate College, E-9 Islamabad (2002-2004)

HSSC Grade: A+

PAF Intermediate College, E-9, Islamabad (2000-2002)

SSC Grade: A+

MASTERS THESIS

Analysis of Retinal Images for Grading of Diabetic Maculopathy

UNDERGRAD FINAL YEAR PROJECT

Design and Implementation of AUTOMATIC FINGERPRINT RECOGNITION SYSTEM

EXPERIENCE

July 2013 – Till Date

Senior Researcher on ICT R&D funded project, CASE

September 2012-June 2013

Lecturer Visiting Faculty at Bahria University, Islamabad, Department of Computer and Software Engineering

November 2008- September 2011

Lecturer at Fatima Jinnah Women University (FJWU), Rawalpindi, Department of Software Engineering

Supervised final year projects and thesis in FJWU

- Automated Lung Nodule Detection in Lungs CT images
- Iris Recognition using Gabor Wavelets and Pattern Matching technique for iris matching
- Automated System for Fingerprint Classification by Detecting Singular Points
- Automated Fingerprint Postprocessing System using Windowing Technique
- Spatial Rule based Automated Facial Feature Expression Recognition System
- Automated System for Detecting Drowsy Driver
- Automated System for Fingerprint Matching using Adjacent Feature Vector Techniques
- Automated System for Liver CT image enhancement and segmentation
- Automated system for Optic Disk Localization and Detection in Retinal Images
- Automated system for blood vessel enhancement and segmentation in retinal images
- Gabor wavelet based Fingerprint Image enhancement
- Brain tumor detection and size estimation in CT/MRI images

AWARDS & ACHIEVEMENTS

- **Best Project Award** at “All Pakistan Mobilink Science Fair” at GIKI, Pakistan. Feb-2008
- **Best Research Paper Award** at ‘All Pakistan Electrical Engineering Conference’ (IET-APE2C) at GIK Institute of Technology, Pakistan, Nov.-2007.
- **2nd prize** for project at “COMPPEC 2008” held at E&ME College, NUST, Rawalpindi.
- **Commandant Award** for getting 1st position in technical paper and project competition
- UG Final year project was awarded as the “**2nd best**” in college.
- Scholarship from NUST in 2nd, 3rd and 4th semesters in UG.
- Got **certificate** on attending workshop named “CDMA and EV-DO based 3G Cellular System” in May 2009 at MCS, NUST

- Awarded **certificate** on attending workshop named “Training course on Digital Image Processing and Artificial Neural Networks” from 7-18 June 2010 at PINSTECH, Nilore

RESEARCH CONTRIBUTIONS

Journal Papers

1. M. Usman Akram, Shehzad Khalid, **Anam Tariq**, M. Younas Javed, “Detection of Neovascularization in Retinal Images using Multivariate m-Medoids based Classifier”, Elsevier Journal of Computerized Medical Imaging and Graphics, 2013 [**ISI Impact factor: 1.664**]
2. **Anam Tariq**, M. Usman Akram, Arslan Shaukat, Shoab A Khan, “Automated Detection and Grading of Diabetic Maculopathy in Digital Retinal Images”, Journal of Digital Imaging, Vol. 26, pp. 803-812, 2013. **ISI Impact Factor: 1.255**
3. M. Usman Akram, **Anam Tariq**, M. Almas Anjum, Automated Detection of Exudates for Screening of Diabetic Retinopathy , OSA Journal on Applied Optics, Vol. 51, No. 20, 2012. **ISI Impact Factor: 1.748**
4. Kiran Yaseen, **Anam Tariq**, M. Usman Akram, “A Comparison and Evaluation of Computerized Methods for OD Localization and Detection in Retinal Images”, International Journal of Future Computer and Communication, Vol. 2, No. 6, pp. 613-619, 2013.
5. Shafia Shabbir, **Anam Tariq**, M. Usman Akram, “A Comparison and Evaluation of Computerized Methods for Blood Vessel Enhancement and Segmentation in Retinal Images”, International Journal of Future Computer and Communication, Vol. 2, No. 6, pp. 600-603, 2013.
6. **Anam Tariq**, M. Usman Akram, “Personal Identification using Ear Recognition”, TELKOMNIKA Indonesian Journal of Electrical Engineering, Vol. 10, No. 2, June 2012.
7. M. Usman Akram, Ibaa Jamal, **Anam Tariq**, “Blood Vessel Enhancement and Segmentation for Screening of Diabetic Retinopathy”, TELKOMNIKA Indonesian Journal on Electrical Engineering, Vol. 10, No. 2, pp. 327-334, 2012
8. Ibaa Jamal, M Usman Akram, **Anam Tariq**, Retinal Image Preprocessing: Background and Noise Segmentation , TELKOMNIKA Indonesian Journal on Electrical Engineering, Vol. 10, No. 3, 2012
9. M. Usman Akram, **Anam Tariq**, Sarwat Nasir, Shoab A. Khan, “Fingerprint Image: Pre and Post-Processing”, International Journal of Biometrics, Inderscience, Vol. 1, No. 1, pp. 63-80, May 2008.

Conference Papers

1. **Anam Tariq**, M. Usman Akram, and M. Younus Javed, “Lung Nodule Detection in CT Images using Neuro Fuzzy Classifier”, IEEE Symposium Series on Computational Intelligence (SSCI), pp. 49-53, Singapore, 2013.
2. **Anam Tariq**, M. Usman Akram, and M. Younus Javed, “Computer Aided Diagnostic System for Grading of Diabetic Retinopathy”, IEEE Symposium Series on Computational Intelligence (SSCI), pp. 30-35, Singapore, 2013.
3. **Anam Tariq**, M. Usman Akram, Arslan Shaukat, Shoab A Khan, “A Computer Aided System for Grading of Maculopathy”, 6th Cairo International Conference on Biomedical Engineering, pp. 31-34, Egypt, Dec 2012.
4. **Anam Tariq**, Arslan Shaukat, Shoab A. Khan, “Guassian Mixture model based detection of macula in fundus images”, LNCS, ICONIP 2012, pp. 33-40, Nov 2012.
5. M. Usman Akram, **Anam Tariq**, Shoab A Khan, “Detection of Neovascularization for Screening of Proliferative Diabetic Retinopathy”, Image analysis and Recognition, Lecture Notes in Computer Science, (Berlin, Heidelberg: Springer), LNCS, Portugal, pp. 372-379, Portugal, June 12.
6. M. Usman Akram, Ibaa Jamal, **Anam Tariq** and Junaid Imtiaz, “Automated Segmentation of Blood Vessels for Detection of Proliferative Diabetic Retinopathy”, IEEE-EMBS International Conference on Biomedical and Health Informatics, Hong Kong, Jan 2012.
7. **Anam Tariq**, M. A. Anjum, M. Usman Akram, “Personal Identification using Computerized Human Ear Recognition System”, IEEE International Conference on Computer Science and Network Technology (ICCSNT 2011), pp.50-54, Dec 2011, China.
8. Saira Javed, **Anam Tariq**, “Computerized System for fingerprint classification using singular points”, INMIC, Dec 2011
9. Anum Batool, **Anam Tariq**, “Computerized System for fingerprint identification for biometric security”, INMIC, Dec 2011.
10. M. Usman Akram, **Anam Tariq** and Shoab A Khan, “Retinal Recognition: Personal Identification using Blood Vessels”, 6th International Conference on Internet Technology and Secured Transactions (ICITST 2011), pp. 180-184, 11-14 Dec, UAE
11. **Anam Tariq**, M. Usman Akram and Shoab A Khan, “An Automated System for Fingerprint Classification using Singular Points for Biometric Security”, 6th International Conference on Internet Technology and Secured Transactions (ICITST 2011), pp. 170-175, 11-14 Dec, UAE

12. M. Usman Akram and **Anam Tariq**, "Computer Aided System for Brain Tumor Detection and Segmentation", IEEE International Conference on Computer Networks and Information Technology (ICCNIT), pp. 299-302, July 2011, Abbottabad, Pakistan
13. M. Usman Akram and **Anam Tariq**, "An Automated System for Colored Retinal Image Background and Noise Segmentation", IEEE Symposium on Industrial Electronics and Applications (ISIEA 2010), pp. 405-409, 3rd – 6th October 2010, Penang, Malaysia.
14. Amna Saeed, **Anam Tariq**, Usman Jawaid, "Automated System for fingerprint Image enhancement using improved segmentation and Gabor wavelets" IEEE ICICT, 2011
15. Maryam Mubbashar, **Anam Tariq** and M. Usman Akram, "Automated System for Macula Detection in Digital Retinal Images", IEEE ICICT, pp. 1-5, July 2011, Karachi, Pakistan
16. M. Usman Akram, **Anam Tariq**, "Automated Optic Disc Localization and Detection in Colored Retinal Images", ACM, Frontiers in Information Technology, Pakistan, Dec 2009.
17. M. Usman Akram, **Anam Tariq**, "Cooperative Friendship Networks through SLAC with Newscast", 3rd IEEE International conference on Information and Communication Technologies, pp.181-185, Pakistan, 15-16 Aug, 2009.
18. M. Usman Akram, **Anam Tariq**, Shoab A. Khan, "Retinal Image Blood Vessel Segmentation", 3rd IEEE International conference on Information and Communication Technologies, pp.31-34, August, Pakistan, 2009.
19. M. Usman Akram, **Anam Tariq**, Sarwat Nasir, Shoab A. Khan, "Gabor Wavelet Based Vessel Segmentation in Retinal Images", IEEE CIIP, Tennessee, USA, 29 March-2 April, 2009.
20. M. Usman Akram, **Anam Tariq**, Sarwat Nasir, "Retinal Images: Noise Segmentation", 12th IEEE International Multitopic Conference (INMIC08), pp. 116 - 119 , Karachi, 23-24 Dec, 2008
21. **Anam Tariq**, M. Usman Akram, Sarwat Nasir, Rabia Arshad, "Fingerprint Image Postprocessing Using Windowing Technique", International Conference on Image Analysis and Recognition (ICIAR08), SpringerLink LNCS5112, pp. 915-924, Portugal, June 2008.
22. M Usman Akram, Sarwat Nasir, **Anam Tariq**, Irfan Zafar, "Improved Fingerprint Image Segmentation using New Modified Gradient Based Technique", CCECE, Canada, May08.
23. M. Usman Akram, **Anam Tariq**, Sarwat Nasir, Aasia Khanum, "Core Point Detection Using Improved Segmentation and orientation", The 6th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA08), pp. 637-644, Qatar, April 2008.
24. Shahida Jabeen, **Anam Tariq**, "Hardware Accelerator for computing 3D DFT in Medical Image Processing", Biomed, Iasted, Austria, 12-14 Feb, 2008.
25. M. Usman Akram, **Anam Tariq**, Shahida Jabeen, Shoab A. Khan, "Fingerprint Image Segmentation Based on Boundary Values", 3rd International Conference on Computer Vision Theory and Applications (VISAPP08), Vol. 1, pp. 134-138, Portugal, Jan 2008.

PRESENTATIONS

- 9th IEEE International Conference on Neural Information Processing (ICONIP), 12-15 Nov, Doha, Qatar, 2012
- 6th IEEE International Conference on Internet Technology and Secured Transactions (ICITST), 11-14 Dec, UAE, 2011
- IEEE Symposium on Industrial Electronics and Applications (ISIEA 2010), 3rd – 6th October 2010, Penang, Malaysia.
- 11th IEEE International Multitopic Conference (INMIC), Karachi, Pakistan, Dec08

RESEARCH INTERESTS

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|-----------------------|---------------------|
| • Pattern Recognition | • Biometrics |
| • Medical Imaging | • Signal Processing |
| • Image Processing | |

TECHNICAL SKILLS

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|--------------------------------|------------------------------------|-----------------------------------|
| • C++, MATLAB 7, Java, C#, SQL | • Visual Studio2007 | • MS Publisher |
| • SQL Server 2005 | • NetBeans , Borland JBuilder | • ET Veriwell & ModelSim SE 5.7 |
| • Xilinx ISE 9.0 | • MS Access | • MASM (for assembly programming) |
| • MS OFFICE | • Oracle Database and Developer10g | • OPNet IT Guru |
| • Electronics Workbench | | |

REFERENCES

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| Dr. Muhammad Younus Javed (Dean),
Professor, College of E&ME, Rawalpindi, Pakistan.
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