

Gopal Datt Joshi

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Education

- **PhD**
International Institute of Information Technology, Hyderabad Jan, 2008- Dec, 2011(expected)
– Thesis: Automated Glaucoma Assessment from Colour Retinal Images.
- **Master of Science by Research**
International Institute of Information Technology, Hyderabad IIT-H, Dec, 2006
– MS Thesis: Towards Understanding Texture Processing
- **B. Tech in CSE**
M.I.E.T, Meerut (Percentage: 72.0) UPTU, Lucknow, (2004)
- **Senior Secondary**
Government Inter College , Meerut (Percentage: 70.0) U.P. Board (1999)
- **Secondary**
Ram Shaye Inter College, Meerut (Percentage: 65.3) U.P. Board (1997)

Experience

- Worked in [Center for Visual Information Technology \(CVIT\)](#), IIIT-H as a Research Assistant (2004-2006) & (2008- Till Date)
- Worked on Document Image Analysis in [HP Labs India](#) as a Research Scholar Nov, 2006- Sep, 2007
- Teaching Assistant for course: Computer Programming, Monsoon 2004; Computer Organisation, Spring 2005

Journal Articles

- G. D. Joshi, J. Sivaswamy, and S. R. Krishnadas **Optic Disk and Cup Segmentation from Monocular Colour Retinal Images for Glaucoma Assessment**. *IEEE Transactions on Medical Imaging (TMI)* (2011), 30(6) pp. 1192-1205.
- Keerthi Ram, G. D. Joshi, and J. Sivaswamy, **A successive clutter-rejection based approach for early detection of diabetic retinopathy**. *IEEE Transactions on Biomedical Engineering (TBME)* (2011), 58(3) pp. 664-673.
- G. D. Joshi, J. Sivaswamy, **Drishticare: A Tele-screening Platform for Diabetic Retinopathy powered with Fundus Image Analysis**. *Journal of Diabetes Science and Technology (DST)* (2010), 5(1) pp. 1605-1613.
- G. D. Joshi, S. Garg and J. Sivaswamy, **A generalised framework for script identification**. *International Journal on Document Analysis and Recognition (IJ DAR)* (2007), 10(2) pp. 55-68.

Patent Applications

- G. D. Joshi, **System and Method for disease screening using digital image processing powered tele-diagnosis platform.** *Indian Patent Application*, Dec 2010. (Application Filed)
- **Document Comparison Method and Apparatus.** *Indian and U.S. Patent filed by Hewlett-Packard Development Company, L. P.*, IPC8 Class: AG06K900FI; USPC Class: 382112, July 2007. (Granted)

Conference Articles

- G. D. Joshi, R. Gautam, J. Sivaswamy, R. Krishnadas, **Robust Optic Disk Segmentation from Colour Retinal Images.** *Indian conf. Computer Vision, Graphics and Image Processing (ICVGIP)*, pp. 335-341, 2010.
- S. Deepak, G. D. Joshi, and J. Sivaswamy, **Content-Based Retrieval of Retinal Images for Maculopathy.** *ACM International Health Informatics Symposium (IHI)*, pp. 135-143, 2010.
- G. D. Joshi, J. Sivaswamy, K. Karan, Prashanth R., and R. Krishnadas, **Vessel bend-based cup segmentation in retinal images.** *International Conference on Pattern Recognition (ICPR)*, pp. 2536-2539, 2010.
- G. D. Joshi, J. Sivaswamy, K. Karan and R Krishnadas, **Optic Disk and Cup boundary detection using regional information.** *IEEE International Symposium on Biomedical Imaging (ISBI)*, pp. 948-951, 2010.
- G D Joshi and J. Sivaswamy, **Colour retinal image enhancement based on domain knowledge.** *Proc. Indian conf. Computer Vision, Graphics and Image Processing (ICVGIP)*, pp. 591-598, 2008.
- J. Singh, G. D. Joshi and J Sivaswamy, **Appearance based object detection in colour retinal images.** *Proc. IEEE International Conference on Image Processing(ICIP)*, pp. 1432-1435, 2008.
- S. Ramachandrupa, G. D. Joshi, S. Noushath, P. Parikh and V. Gupta, **PaperDiff: A script independent automatic method for finding the text differences between two document images.** *Proc. Document Analysis Systems (DAS)*, pp. 585-590, 2008.
- G. D. Joshi, V. Gondle and J. Sivaswamy, **Optic disk detection using topographical features.** *Proc. International EURASIP conference BIOSIGNAL*, 2008.
- G. D. Joshi, S. Garg and J. Sivaswamy, **Script identification from Indian documents.** *Proc. Document Analysis Systems (DAS)*, pp. 255-267, 2006.
- J. Sivaswamy, G. D. Joshi and S. Chandra, **An alternative curvature measure for topographic feature detection.** *Proc. Indian conf. Computer Vision, Graphics and Image Processing (ICVGIP)*, pp. 228-239, 2006.
- G. D. Joshi and J. Sivaswamy, **A computational model for boundary detection.** *Proc. Indian conf. Computer Vision, Graphics and Image Processing (ICVGIP)*, pp. 172-183, 2006.
- G D Joshi and J. Sivaswamy, **A simple scheme for contour detection.** *Proc. International Conference on Computer Vision Theory and Applications (VISAPP)*, pp. 236-242, 2006.
- S. Garg, J. Sivaswamy and G. D. Joshi, **Automatic drusen detection from colour retinal images.** *Proc. Indian Conference on Medical Informatics and Telemedicine(ICMIT)*, pp. 84-88, 2006.
- G. D. Joshi and J. Sivaswamy, **Multi-scale approach to salient contour detection.** *Proc. International Conference on Cognition and Recognition (ICCR)*, pp. 186-193, 2005.

Major Projects

- **Automatic Retinal Image Analysis for Glaucoma Detection** , CVIT and Aravind Eye Hospitals, India 2008- ongoing

– Funded by Department of Science and Technology (DST), Govt. of India.

- ***DrishtiCare: A tele-screening platform powered with retinal image analysis***, Individual: Principle Investigator . 2008-2010
 - Funded by TPDUP: Technopreneur Promotion Programme (TePP), DSIR, India.
- ***Development of tools for detecting diabetic retinopathy from fluorescein fundus images***, CVIT, IIT-H. 2005-2008
 - Funded by Lions Clubs International Foundation (LCIF), USA.
- ***Development of tools for detecting diabetic retinopathy from colour fundus images***, CVIT, IIT-H 2005-2007
 - Funded by Department of Science and Technology (DST), Govt. of India.
- ***Towards Understanding Texture Processing*** CVIT, IIT-H 2004-2006
 - M.S. by Research thesis work
- ***Checkers Playing robot*** MIET Meerut Sep 2003- March 2004
 - B-Tech Final-Year Project.
- ***Pioneer -A Path Finding Robot*** MIET Meerut Dec 2002, Apr 2003
 - B-Tech Third-Year Project.

Miscellaneous

- IEEE Student Member since 2005.
- Reviewer for Pattern Recognition and IEEE Tran. Biomedical Engineering Journals

Thesis and Technical Reports

- G. D. Joshi, **A biologically inspired scheme for boundary detection**. *Tech-Report: IIT-Hyderabad (Apr, 2011)*.
- G. D. Joshi, **MS Thesis: Towards Understanding Texture Processing**. *IIT-Hyderabad (Nov, 2006)*.
- S. Ramachandrula; G. D. Joshi; S. Noushath; P. Parikh; V. Gupta, **PaperDiff: A script independent automatic method for finding the text differences between two document images**. *HP Labs Technical Reports*, HPL-2008-130.

Reference

- **Prof. Jayanthi Sivaswamy**, Professor at IIT, Hyderabad, India (*jsivaswamy AT iit.ac.in*)
- **Prof. P. J. Narayanan**, Dean R&D at IIT, Hyderabad, India (*pjn AT iit.ac.in*)
- **Dr. Ramaswami Krishnadas**, Chief Medical Officer at Aravind Eye Hospital & Postgraduate Institute of Ophthalmology, Madurai, India (*krishnadas AT aravind.org*)
- **Dr. Sitaram Ramachandrula**, Senior Research Scientist at HP Labs India. (*sitaram AT hp.com*)