Howard Zhou

Software Engineer
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Education

2005-2010 **Ph.D. Computer Science**
Georgia Institute of Technology – Atlanta, Georgia
Advisor: Professor James M. Rehg
GPA: 3.96/4.0

2002-2005 **M.Sc. Computer Science**
Georgia Institute of Technology – Atlanta, Georgia
Advisor: Professor James M. Rehg
GPA: 4.0/4.0

1999-2002 **B.S. Engineering & Applied Science, Computer Science option**
California Institute of Technology – Pasadena, California
GPA: 3.9/4.2

Industrial Work Experience

2010 September - Present **Google** Mountain View, California
Software Engineer
Image Search Content Team.

2008 September - December **Intel Research Pittsburgh** Pittsburgh, Pennsylvania
Research Intern
Development of DermFind: an Interactive Search Assisted Decision Support System that enables dermatologists to make more informed decisions about a given case by presenting relevant annotated cases from large medical repositories. My responsibilities include the design and implementation of various system components: dermoscopic feature detector and classifier, interactive search, and dermatological case diagnosis components. I am also responsible for coordinating development and testing efforts among Intel researchers, UPMC researchers and UPMC dermatologists.
Implementation: C/C++ (QT, OpenMP, OpenCV, Intel IPP, MKL, Boost)

2008 summer **University of Pittsburgh Medical Center** Pittsburgh, Pennsylvania
Summer Research Intern
Development of DermFind including the design of Dermbase: a dermoscopic case/feature database, and the implementation of the database connection and user interface component.
Implementation : C/C++ (QT, OpenCV), SQL (MySQL), JAVA

2007 May - December **Intel Research Pittsburgh** Pittsburgh, Pennsylvania
Research Intern – ISADS:Interactive Search Assisted Decision Support
Responsible for the design and development of a distributed content based medical image search and decision support system.
Implementation : C/C++ (OpenCV, Intel IPP, MKL, OpenDiamond), MATLAB

2001 summer **Boeing Satellite Systems** El Segundo, California
Summer Intern – New Business and Technology Group
Responsible for the development and deployment of satellite unit testing database, including the design and implementation of a web user interface for the database.
Implementation : ASP, IIS 5.0, Active X, Visual Basic, MS SQL

2000 summer **Microsoft Corp.** Redmond, Washington
Summer Intern – Smartphone Project Group

Software Design Engineer in Test on Stinger Internet Phone Project – Design and implementation of an auto-testing dial-up server using Windows TAPI and MFC framework.
Implementation : C/C++ (MFC, Windows TAPI)

Academic & Teaching Experience

2002-Present **Georgia Institute of Technology** Atlanta, Georgia
Graduate Research Assistant – under supervision of Prof. James M. Rehg
Performed research in areas of Medical Image Analysis, Computer Vision and Graphics, and Multimedia. Selected projects include Computer-Aided Diagnosis of pigmented skin lesion, content-based image retrieval of skin lesion images, exemplar-based terrain synthesis, and movie genre classification via scene categorization.

2006 Spring **Georgia Institute of Technology** Atlanta, Georgia
Graduate Teaching Assistant – under supervision of Prof. Alexander G. Gray
Constructing Proofs

2000-2002 **California Institute of Technology** Pasadena, California
Teaching Assistant – under supervision of Prof. Jim Arvo
Fundamental Concepts of Computer Science

Publications

Journal **Howard Zhou**, Jie Sun, Greg Turk, and James M. Rehg. Terrain Synthesis from Digital Elevation Models. *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 13(4):834-848, 2007

Conference **Howard Zhou**, Tucker Hermans, Asmita Karandikar, and James M. Rehg. Movie Genre Classification via Scene Categorization. *To appear in Proc. ACM Multimedia International Conference (ACM MM)*, October, 2010

Le Zou, **Howard Zhou**, Samuel Cheng, and Chuan He. Dual Range Deringing for Non-blind Image Deconvolution. *To appear in Proc. of International Conference on Image Processing (ICIP)*, September, 2010

Howard Zhou, Mei Chen, and James M. Rehg. Exemplar-based Segmentation of Pigmented Skin Lesions from Dermoscopy Images. *In Proc. of IEEE International Symposium on Biomedical Imaging (ISBI)*, April, 2010

Howard Zhou, Mei Chen, and James M. Rehg. Dermoscopic Interest Point Detector and Descriptor. *In Proc. of IEEE International Symposium on Biomedical Imaging (ISBI)*, 1318-1321, June, 2009

Howard Zhou, Mei Chen, Le Zou, Richard Gass, Laura Ferris, Laura Drogowski, and James M. Rehg. Spatially Constrained Segmentation of Dermoscopy Images. *In Proc. of IEEE International Symposium on Biomedical Imaging (ISBI)*, 800-803, May, 2008

Howard Zhou, Mei Chen, Richard Gass, James M. Rehg, Laura Ferris, Jonhan Ho, and Laura Drogowski. Feature Preserving Artifact Removal from Dermoscopy Images. *In Proc. of SPIE Symposium on Medical Imaging*, 2008.

Skills

Programming C/C++ (API: QT, OpenCV, Intel IPP and MKL, Boost, OpenMP, OpenGL), MATLAB, JAVA, SQL(MySQL), PHP, HTML, LISP

Operating Systems Windows, Linux/UNIX

Design tools MS Visual Studio, KDevelopper, Adobe Photoshop, Illustrator, Premier, Latex, MS Office, Frontpage, Maya, Terragen

Languages English (fluent), Chinese (native), Japanese

Honors & Awards

NSF Graduate Fellowship Award	2003-2006
President's Fellowship Award, College of Computing, Georgia Institute of Technology	2003-2007
William C. Miller Scholarship in Physics	1999
William C. Miller Scholarship in Computer Studies	1999
Jaylene Mosley Scholarship in Computer Science	1998
Geraldine Webb Scholarship for Outstanding Achievement	1998
National Math Champion Team (twice) League of American Mathematics at 2-Year Colleges	1998, 1999

Service

Professional

Reviewer for

ACM International Conference and Exhibition on Computer Graphics and Interactive Techniques (SIGGRAPH)

ACM SIGGRAPH Conference and Exhibition Asia (SIGGRAPH ASIA)

IEEE Conference on Computer Vision and Pattern Recognition (CVPR)

Asian Conference on Computer Vision (ACCV)

Conference of the European Association for Computer Graphics (EUROGRAPHICS)

IEEE Pacific Visualization (PacificVis)

IEEE International Conference on Multimedia & Expo (ICME)

Journal of Computer Science and Technology (JCST)

Computer Methods and Programs in Biomedicine (CMPB)

Computer Graphics International (CGI)

References

Available upon request