

## Dr. Michael S. Brown

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Department of Computer Science, School of Computing  
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EDUCATION	<b>University of Kentucky</b> PhD in Computer Science Advisor: W. Brent Seales	Lexington, KY, USA 2001
	<b>University of North Carolina at Chapel Hill</b> Visiting PhD Student Advisor: Henry Fuchs	Chapel Hill, NC, USA 1998-2000
	<b>University of Kentucky</b> B.S. in Computer Science	Lexington, KY, USA 1995
RESEARCH INTERESTS	<input type="checkbox"/> Computer vision, image processing, and computer graphics	
EXPERIENCE (ACADEMIC)	<input type="checkbox"/> <b>National University of Singapore</b> Associate Professor Assistant Dean (External Relations) <i>Sung Kah Kay</i> Assistant Professor School of Computing	Singapore 2010 – Present 2011-Present 2007 - 2009
	<input type="checkbox"/> <b>Nanyang Technological University</b> Assistant Professor School of Computer Engineering	Singapore 2005-2007
	<input type="checkbox"/> <b>California State University – Monterey Bay</b> Assistant Professor School of Information Technology and Communications	Monterey, CA, USA 2004-2005
	<input type="checkbox"/> <b>Hong Kong University of Science and Technology</b> Assistant Professor Department of Computer Science	Hong Kong, PRC 2001-2004
(CONSULTANCY)	<input type="checkbox"/> <b>Singapore Electronics Private Limited</b>	Singapore March 2008-July 2008
	<input type="checkbox"/> <b>Microsoft Research Asia</b>	Beijing, PRC Jan 2007-Dec 2007
(INDUSTRY)	<input type="checkbox"/> <b>System Analyst, Black Isle Systems</b>	Avoch, Scotland, UK 1995-1996
	<input type="checkbox"/> <b>Unix Programming, Lexmark International</b>	Lexington, KY, USA 1994-1995

## HONORS/AWARDS

- Annual Teaching Excellence Award (NUS) [University level], AY09/10
- Faculty Teaching Excellence Award (NUS) [Faculty level], AY08/09, 09/10, 10/11
- Faculty Teaching Excellence Honor Roll (NUS) [Faculty level], AY10/11  
    ("Honor Roll" members are not eligible to receive faculty teaching awards for 5 years)
- Sung Kah Kay Professorship (2007-2009)
- Young Investigator Award (NUS), 2008
- Outstanding Reviewer, CVPR, 2008 (sponsored by IBM)
- Best Student Paper, ACM/IEEE Joint Conference on Digital Libraries (JCDL), 2008  
    (Authored with former student Huang Yi - award sponsored by Yahoo)
- College of Engineering's Teaching Award (HKUST), 2002
- University of Kentucky Graduate Fellowship, 1996-2001
- Ashland Oil Academic Scholarship, 1990-1994

## ACTIVITIES

- **Associate Editor**
  - IEEE Transactions on Pattern Analysis and Machine Intelligence (2011- current)
- **Guest Editor**
  - International Journal on Computer Vision (IJCV), Special Issue on eHeritage (2011)
  - Innovations Magazine, Dec 2008 (Singapore)
- **Conference/Workshop Organizer**
  - General Char, Pacific Graphics 2013 (upcoming)
  - General Chair, IEEE Workshop on Applications of Computer Vision (WACV), 2013
  - General Chair, Workshop on Historical Document Processing, at ICDAR 2011
  - Program Chair, IEEE WACV 2011, 2012
  - Course Chair, SIGGRAPH-Asia 2012
  - Tutorial Chair, International Conference on Image Processing (successful bid 2013)
  - Co-Chair, IEEE Workshop on eHeritage, at ICCV 2009
  - Co-Chair, ACM/IEEE Workshop on Projector-Camera Systems, at SIGGRAPH'08
- **Area Chair (or equivalent)**
  - European Conference on Computer Vision (ECCV), 2012
  - IEEE International Conference on Computer Vision (ICCV), 2011
  - IEEE Conf. on Computer Vision and Pattern Recognition (CVPR) 2009, 2011, 2013
  - IEEE Virtual Reality 2011
  - Pacific Graphics 2010, 2011
  - Asian Conf. on Computer Vision (ACCV) 2010, 2012
- **Session Chair**
  - IEEE Workshop on Applications of Computer Vision (WACV), 2009-12
  - IEEE Conf. on Computer Vision and Pattern Recognition (CVPR), 2009
  - IEEE Workshop on Projector Camera Systems (PROCAMS), 2006, 2009
  - Asian Conference on Computer Vision (ACCV), 2004
- **Program Committee** (*selected listing*)
  - IEEE Conf. on Computer Vision and Pattern Recognition (CVPR), 2004-2008, 2010
  - IEEE Int'l Conf. on Computer Vision (ICCV), 2005, 2007, 2009
  - European Conf. on Computer Vision (ECCV), 2004, 2006, 2008, 2010
- **Reviewer** for journals (*selected listing*)
  - IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)
  - IEEE Transactions on Image Processing (T-TIP)
  - ACM Transactions on Graphics (ToG), SIGGRAPH, SIGGRAPH-Asia
  - IEEE Transactions on Visualization and Computer Graphics (T-VCG)

□ **Grant/Proposal Reviewer**

- Israel Science Foundation (ISF), 2012
- Austrian Science Fund, 2012
- Hong Kong Research Grant Council, 2001, 2011, 2012
- Natural Sciences and Engineering Research Council of Canada (NSERC) , 2011
- Microsoft Research Scholarship Awards, 2011
- Singapore Innovation Proposals, 2009

GRANTS

**CURRENT GRANTS**

- **(PI)** Agency for Science, Technology Research (A\*STAR) Public Sector Funding  
“Spectral Imaging for Consumer Cameras”  
2/2012-2/2015, \$652,600 (~USD\$ 519,00)
- **(PI)** FRC’09 (Faculty Research Committee)  
“User-assisted Extraction of 3D Scene Properties from Images and Videos”  
2/2010 -2/2013 , S\$50,000 (~USD\$ 35,206)
- **(PI)** NUS-Young Investigator Award (YIA’08)  
“Hyperspectral Imaging of Old and Damaged Manuscripts”  
1/2009 – 1/2012, S\$500,000 (~USD\$350,000)

**PREVIOUS GRANTS**

- **(PI)** AcRF Tier 1  
“Perceptual Fidelity and Seamlessness in Projector-Based Displays”  
1/2008-12/2010, S\$149,000 (~USD\$104,300)
- **(PI)** Agency for Science, Technology Research (A\*STAR) Public Sector Funding  
“Imaging and Restoration Techniques for Historical Archives”  
5/2008-4/2010, S\$426,050 (~USD\$298,200)
- **(PI)** EADS’09 (European Aeronautic Defence and Space Company)  
“IR Sensor Distribution Strategies”  
2/2009 -8/2009 , S\$33,384 (~USD\$ 23,368)

**NANYANG TECHNOLOGICAL UNIVERSITY**

- **(PI)** NTU-College of Engineering.SUG (Startup Grant)  
“Camera-based Imaging of Special Collections Materials”  
3/2005- 11/2007, S\$70,000 (~USD\$49,000)
- **(PI)** Research Outcome Award & Recognition (ROAR)  
Award for PhD Scholarship  
3/2006-11/2007, S\$50,000 (~USD\$35,000)  
1/2007-11/2007, S\$100,000 (~USD\$70,000)
- **(PI)** NTU- Office of Research Award  
Award for PhD Scholarship  
5/2006 – 11/2007, S\$100,000 (~USD\$70,000)
- **(Co-PI)** NTU-SCE/Georgia Tech  
“Perceptual Fidelity in Projector-Based Displays”, with PI Assoc/Prof. Tat-Jen Cham  
6/2006 – 11/2007, S\$300,000 (~USD\$210,000)

**HKUST**

- **(PI)** HKUST6177/03E, Research Grant Council (RGC)  
“Acquiring, restoring, and displaying scholarly manuscripts”  
06/2003-07/2004, HK\$598,317 (~USD\$77,781)
- **(PI)** HKUST16181/02E, Research Grant Council (RGC)  
“Easily constructed, commodity-based, large-format displays”  
6/2002-07/2004, HK\$556,000 (~USD\$72,280)

- **(PI)** SSRI01.02EG04 (HKUST)  
 “Computer-aided removal of blemishes from video”  
 6/2002-12/2003, HK\$201,000 (~USD\$26,130)
- **(PI)** DAG01.02EG02 (HKUST)  
 “Digital acquisition and display of antiquities”  
 8/2001-12/2002, HK\$100,000 (~USD\$13,000)
- **(Co-PI)** High-Impact-Area (HKUST), HIA.02EG02  
 “Tools for digital multimedia editing and authoring” – Co-PI with Vision/Graphics Faculty  
 1/2002-07/2004, HK\$840,000 (~USD\$109,200)

TEACHING

<b>National University of Singapore</b>		Personal / School's Mean	
CS3343 – Digital Media Production (Lecture)	Evaluations	(95.00 / 80.12)	Sem II 11 †
CS5341 – Computational Photography (Lecture)	Evaluations	(93.30 / 80.12)	Sem II 11 †
CS3241 – Computer Graphics (Lecture)	Evaluations	(94.06 / 79.92)	Sem I10 † ‡
CS3241 – Computer Graphics (Tutorials)	Evaluations	(97.28 / 78.20)	Sem I10 † ‡
CS3343 – Digital Media Production (Lecture)	Evaluations	(95.53 / 79.92)	Sem I10 † ‡
CS5341 – Computational Photography (Lecture)	Evaluations	(93.34 / 79.20)	Sem I 09 †
CS3343 – Digital Media Production (Lecture)	Evaluations	(95.53 / 79.20)	Sem I 09 †
CS5341 – Computational Photography (Lecture)	Evaluations	(92.00 / 78.86)	Sem II 08
CS3241 – Computer Graphics (Tutorials)	Evaluations	(95.90 / 78.86)	Sem II 08

† Faculty Teaching Award  
 ‡ University Teaching Award

<b>Nanyang Technological University</b>			
CE7491 – Digital Image Processing (Lecture)	Evaluations	(100.0 / 83.83)	Sem I 07
CPE102 – Intro. to Java Programming (Lecture)	Evaluations*	-	Sem I 07
DM6121 – Human Computer Interface (Lecture)	Evaluations	(95.14 / 83.83)	Sem II 07
CPE205 – Operating System (Lab)	Evaluations*	-	Sem II 07
CPE102 – Intro. to Java Programming (Lecture)	Evaluations	(88.88 / 80.10)	Sem I 06
CSC121 – Intro. to Java Programming (Tutorial)	Evaluations	(87.60 / 83.83)	Sem I 06
CE6941 – Image Processing (Lecture)	Evaluations*	-	Sem I 06
DM6121 – Human Computer Interface (Lecture)	Evaluations	(100.0 / 78.46)	Sem II 06
CSC204 – Computer Graphics (Tutorial)	Evaluations	( 94.0 / 81.72)	Sem II 06

\* NTU performed only *one* lecture and tutorial evaluation per semester. Means are computed for lectures and tutorials separately.

<b>California State University – Monterey Bay</b>			
CST337 – Intro to Computer Architecture/OS	Evaluations*	92.00	Spring 05
CST338 – Data-structures with C++	Evaluations	96.00	Spring 05
CST495 – Game Design (using Torque)	Evaluations+	92.00/100	Spring 05
CST337 – Intro to Computer Architecture/OS	Evaluations	92.00	Fall 05
CST331 – Computer Graphics	Evaluations	92.40	Fall 05

+Course was listed with TAT395, second evaluation is from TAT395  
 Evaluations recorded as “Outstanding=5”, “Very Good=4”, “Satisfactory=3”, “Needs Improvement=2”, “Unsatisfactory=1”.  
 \*School/department averages were not made public.

<b>Hong Kong University of Science and Technology</b>			
COMP171 -- Data Structures and Algorithms	Evaluations	(85.7 / 70.7)	Fall 03
COMP103 -- Fundamentals of Programming	Evaluations	(95.8 / 70.7)	Fall 03
COMP103 – Fundamentals of Programming	Evaluations	(88.9 / 70.2)	Spring 03
COMP341 – Computer Graphics	Evaluations	(88.4 / 71.8)	Fall 02
COMP103 – Fundamentals of Programming	Evaluations	(89.2 / 70.4)	Spring 02 †
COMP641 – Image Processing	Evaluations	(89.7 / 73.6)	Fall 01

† Teaching Award

## PATENTS FILED

- **M.S. Brown**, T.J. Cham and P. Song. Minimizing Image Blur in an Image Projected onto a Display Surface by a Projector. US Patent Application 11/450,796, filed June 2006
- T.P. Wu, C.K. Tang, **M.S. Brown**, H.Y. Shum: “Imparting Three-Dimensional Characteristics in a Two-Dimensional Space”, US Patent Application 2009/0002363, filed July 2007

## PUBLICATIONS

### BOOK

[B-1] “Practical Multi-Projector Display Design”  
Majumder/Brown, AK Peters, USA, 2007

### BOOK CHAPTER

[B-2] Chapter 11, “Digital Libraries” – Michael S. Brown  
Book: Multimedia Information Retrieval and Management, Springer, 2002  
Editors: Feng, Siu, Zhang

### JOURNAL/PERIODICAL

- [J-1] Kim S. J., Lin H.T., Lu Z, Susstrunk S, Lin S., Brown M. S. (2012) “A New In-Camera Imaging Model for Color Computer Vision and its Application”, *IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)*, (accepted)
- [J-2] Gao J. H., Kim S. J., Brown M. S. (2012) “Creating Picture Legends for Group Photos”, *Computer Graphics Forum (Proc. of Eurographics Conference)*, (accepted)
- [J-3] Lu Z., Luo W., Sun Z., Ben-Ezra M., Brown M.S. (2012) “Imaging Buddhist Art with a Digital Large-Format Camera: A Field Study Report from the Dunhuang Caves,” *ACM Journal on Computing and Cultural Heritage (JOCCH)*, (accepted)
- [J-4] Lin H-T., Tai Y-W., Brown M. S. (2011) “Motion Regularization for Matting Motion Blurred Objects”, *IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)*, 33(11), Nov 2011
- [J-5] Tai Y-W., Tan P., Brown M. S. (2011) “Richardson-Lucy Deblurring for Scenes under Projective Motion Path”, *IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)*, 33(8), Aug 2011
- [J-6] Kim S. J., Deng F.B., Brown M. S. (2011) “Visual Enhancement of Old Documents with Hyperspectral Imaging”, *Elsevier Pattern Recognition*, Jan 2011
- [J-7] Yeung S.-K., Tang C.-K., Brown M. S., Kang S. B. (2011) “Matting and Compositing of Transparent and Refractive Objects”, *ACM Transactions on Graphics (ToG)*, 30(1), Jan 2011
- [J-8] Kim S. J., Zhou S.J., Deng F.B., Fu C.W., Brown M. S. (2010) “Interactive Visualization of Hyperspectral Images of Historical Documents”, *IEEE Transactions on Visualization and Computer Graphics (T-VCG) (Proc. of IEEE Visualization Conference)*, 16(6), Nov-Dec 2010
- [J-9] Amans M. R., Shih G., Lu Z., Yeh C., Brown M. S. (2010) “Wiimote viewer enhances resident case conferences”, *Journal of the American College of Radiology*, 7(10), Oct 2010

- [J-10] Huang Yi., Xu D., Brown M.S. (2010) “User-assisted Ink-Bleed Reduction”, *IEEE Transactions on Image Processing (T-IP)*, 19(10), Oct 2010
- [J-11] Shan Q., Jia J-Y., Brown M.S. (2010) “Globally Optimized Linear Windowed Tone-Mapping”, *IEEE Transactions on Visualization and Computer Graphic (T-VCG)*, 16(4), July-Aug, 2010.
- [J-12] Tai Y.W., Hao D., Brown M. S., and Lin S. (2010) “Correction of Spatially Varying Image and Video Motion Blur using a Hybrid Camera”, *IEEE Trans. on Pattern Analysis and Machine Intelligence (T-PAMI)*, 32(6), Jun 2010
- [J-13] Zhang L., Yip A. M., Brown M. S., Tan C. L. (2009) “A Unified Framework for Document Restoration using Inpainting and Shape-from-Shading”, *Elsevier Pattern Recognition*, 42(11), Nov 2009
- [J-14] Tai Y.W., Tang H.X., Brown M.S., Lin S. (2009) “Detail Recovery from Single-image Defocus Blur”, *IJSP Transactions on Computer Vision and Applications*, vol 1, Mar 2009 [invited submission]
- [J-15] Tai Y.W., Brown M.S., Tang C.K., Shum H.Y. (2008) “Texture Amendment: Reducing Texture Distortion in Constrained Parameterizations”, *ACM Transactions on Graphics (ToG-SIGGRAPH-Asia’08)*, 27(5), Dec 2008
- [J-16] Wu T.P., Tang C.K., Brown M.S., Shum H.Y. (2007) “Shape-Palette: Interactive Normal Transfer via Sketching”, *ACM Transactions on Graphics (ToG-SIGGRAPH’07)*, 26(3), Aug 2007
- [J-17] Brown M.S., Sun M., Yang R.G., Lin Y., Seales B. (2007) “Restoring 2D Content from Distorted Documents,” *IEEE Trans. on Pattern Analysis and Machine Intelligence (T-PAMI)*, 29(11), Nov 2007
- [J-18] Wu T.P., Tang C.K., Brown M.S., Shum H.Y. (2007) “Natural Shadow Matting,” *ACM Transactions on Graphics (ToG)*, 26(2), Jun 2007
- [J-19] Brown M.S., Tsoi Y.-C. (2006) “Geometric and Shading Correction of Printed Materials”, *IEEE Transactions on Image Processing (T-IP)*, 15(6), Jun 2006
- [J-20] Brown M. S., Majumder A., Yang R. G. (2005) “Camera-Based Calibration Techniques for Seamless Multi-Projector Displays”, *IEEE Transactions on Visualization and Computer Graphics (T-VCG)*, 11(2), Mar-Apr 2005
- [J-21] Brown M.S., Tsoi Y.-C. (2005) “Distortion removal for camera-imaged print materials using boundary interpolation”, *International Journal of Image and Graphics*, 5(2), Apr 2005
- [J-22] Brown M. S., Seales W. B. (2004) “Image Restoration of Arbitrarily Warped Documents”, *IEEE Trans. on Pattern Analysis and Machine Intelligence (T-PAMI)*, 26(10), Oct 2004
- [J-23] Brown M. S., Seales W. B. (2004) “Incorporating Geometric Registration with PC-Cluster Rendering for Flexible Tiled Displays”, *International Journal of Image and Graphics*, 4(4), Oct 2004 (invited submission)

[J-24] Brown M. S., Seales W. B., Jaynes C. O. and Griffioen J. (2001) "Building Large Format Displays for Digital Libraries," *Communications of the ACM Special Issue on Digital Libraries (CACM)*, 44(5), May 2001

[J-25] Brown M. S., Seales W. B., Kiernan K., and Griffioen J. (2001) "3D Acquisition and Restoration of Medieval Manuscripts," *Communications of the ACM Special Issue on Digital Libraries (CACM)*, 44(5), May 2001

[J-26] Welch G., Fuchs H., Raskar R., Brown M. S., and Towles H. (2000). "Projected Imagery In Your Office in the Future," *IEEE Computer Graphics and Applications (CGA)*, 20(4), Jul 2000

#### CONFERENCE

[C-1] Kim S. Y., Tai Y. W., Kim S. J., Brown M. S., Matsushita Y. (2012), "Nonlinear Camera Response Functions and Image Deblurring", *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'12)*, June 2012 (to appear)

[C-2] Wei Luo\*, Lu Z.\*, Xu Y.-Q., Wang X.G., Ben-Ezra M., Brown M. S. (2012) "Synthesizing Oil Painting Surface Geometry from a Single Photograph", *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'12)*, June 2012 (to appear)

[C-3] Lin H. T., Kim S. J., Susstrunk S., Brown M. S. (2011) "Revisiting Radiometric Calibration for Color Computer Vision", *IEEE International Conference on Computer Vision (ICCV'11)*, Nov 2011

[C-4] Park J., Kim H., Tai Y. W., Brown M. S., Kweon I. (2011) "High Quality Depth Map Upsampling for 3D-TOF Cameras", *IEEE International Conference on Computer Vision (ICCV'11)*, Nov 2011

[C-5] Gao J. H., Kim S. J., Brown M. S. (2011) "Constructing Image Panoramas using Dual-Homography Warping", *IEEE Computer Vision and Pattern Recognition (CVPR'11)*, Jun 2011

[C-6] Liu S. C., Brown M. S., Kim S. J., Tai Y. W. (2010) "Colorization for Single Image Super Resolution", *European Conference on Computer Vision (ECCV'10)*, Oct 2010

[C-7] Deng F. B., Wu Z., Lu Z., Brown M. S. (2010) "BinarizationShop: A User-Assisted Software Suite for Converting Old Documents to Black-and-White", *IEEE/ACM Joint Conference on Digital Libraries (JCDL'10)*, Jun 2010

[C-8] Tai Y. W., Liu S. C., Brown M. S., Lin S. (2010) "Super Resolution using Edge Prior and Single Image Detail Synthesis", *IEEE Computer Vision and Pattern Recognition (CVPR'10)*, Jun 2010

[C-9] Lu Z., Tai Y. W., Ben-Ezra M., Brown M. S. (2010) "A Framework for Ultra High Resolution 3D Imaging", *IEEE Computer Vision and Pattern Recognition (CVPR'10)*, Jun 2010

[C-10] G. A. Hanasusanto, Wu Z., Brown M. S. (2010) "Ink-Bleed Reduction using Functional Minimization", *IEEE Computer Vision and Pattern Recognition (CVPR'10)*, Jun 2010

- [C-11] Tai Y.W., Brown M.S. (2009) "Single Image Defocus Map Estimation using Local Contrast Prior", *IEEE International Conference on Image Processing (ICIP'09)*, Nov 2009
- [C-12] Wang J., Brown M. S., Tan C. L. (2009) "Automatic corresponding control points selection for historical document image registration", *International Conference on Document Analysis and Recognition (ICDAR'09)*, Jul 2009
- [C-13] Lu Z., Wu Z., Brown M.S. (2009) "Directed Assistance for Ink-Bleed Reduction in Old Documents", *IEEE Computer Vision and Pattern Recognition (CVPR'09)*, Jun 2009
- [C-14] Wang J., Brown M. S., Tan C. L. (2008) "Accurate Alignment of Double-sided Manuscripts for Bleed-through Removal", *8th IAPR International Workshop on Document Analysis Systems (DAS'08)*, Sep 2008
- [C-15] Tai Y. W., Hao D., Brown M. S., Lin S. (2008) "Image/Video Deblurring using a Hybrid Camera", *IEEE Computer Vision and Pattern Recognition (CVPR'08)*, Jun 2008
- [C-16] Huang Y., Brown M. S., Xu D. (2008) "A Framework for Reducing Ink-Bleed in Old Documents", *IEEE Computer Vision and Pattern Recognition (CVPR'08)*, Jun 2008
- [C-17] Huang Y., Brown M. S. (2008) "User-Assisted Ink-Bleed Correction for Handwritten Documents", *IEEE and ACM Joint Conference on Digital Libraries (JCDL'08)*, Jun 2008  
[**Best Student Paper Award**]
- [C-18] Tong W.S., Tang C. K., Brown M. S., Xu Y.Q. (2007) "Example-Based Cosmetic Transfer", *Pacific Graphics (PG'07)*, Oct 2007
- [C-19] Tai Y. W., Brown M. S., Tang C. K. (2007) "Robust Texture Distortion Flow Estimation via Dense Feature Sampling", *IEEE Computer Vision and Pattern Recognition (CVPR'07)*, Jun 2007
- [C-20] Tsoi Y.C. and Brown M. S. (2007) "Multi-view Document Restoration using Boundary", *IEEE Computer Vision and Pattern Recognition (CVPR'07)*, Jun 2007
- [C-21] Brown M. S., Song P., Cham T.J. (2006) "Image Preconditioning for Out-of-Focus Projector Blur", *IEEE Computer Vision and Pattern Recognition (CVPR'06)*, Jun 2006
- [C-22] Sun M., Yang, R. Y. Lin Y., Landon G., Seales, B., Brown M. S. (2005) "Geometric and Photometric Restoration of Distorted Documents", *IEEE International Conference on Computer Vision (ICCV'05)*, Oct 2005
- [C-23] Brown M. S. and Pisula C. J. (2005) "Conformal Deskewing of Non-planar Documents", *IEEE Computer Vision and Pattern Recognition (CVPR'05)*, Jun 2005
- [C-24] Brown M.S., Tsoi D. (2004) "Geometric and Shading Correction of Imaged Print Materials: A Unified Approach Using Boundary", *IEEE Computer Vision and Pattern Recognition (CVPR'04)*, Jul 2004
- [C-25] Yang R.D., Brown M.S. (2004) "Emulating Short GOPs in MPEG with Fewer I-frames", *IEEE International Conference on Multimedia Expo (ICME'04)*, Jul 2004
- [C-26] Yang R.D., Brown M.S. (2004) "A Scalable Video Error Concealment Technique Using DMVC", *IEEE International Conference on Multimedia Expo (ICME'04)*, Jul 2004

- [C-27] Yang R.D., Brown M.S. (2004) "Music Query using Syntheisa", *IEEE International Conference on Multimedia Expo (ICME'04)*, Jul 2004
- [C-28] Tsoi D., Brown M. S. (2004) "Removal of Dynamic Blemishes from Video," *Asian Conference on Computer Vision (ACCV'04)*, Jan 2004
- [C-29] Brown M. S., Tsoi D. (2004) "Undistorting Imaged Print Materials Using Boundary Information", *Asian Conference on Computer Vision (ACCV'04)*, Jan 2004
- [C-30] Brown M. S., Yang R. D. (2003) "Computer-Assisted Visualization and Analysis of Scholarly Manuscripts," *IS&T Visualization and Data Analysis*, Jan 2004
- [C-31] Brown M. S., Tsoi D. (2003) "Correcting Common Distortions in Camera-Imaged Library Materials," *IEEE and ACM Joint Conference on Digital Libraries (JCDL'03)*, May 2003
- [C-32] Brown M. S., Yang R. D. (2003) "Fast Half-toning of MPEG Video for Bi-Tonal Displays," *IEEE International Conference on Image Processing (ICIP'03)*, Sep 2003
- [C-33] Brown M. S., Wong W. (2003) "Laser Pointer Interaction For Camera-Registered Multi-Projector Displays," *IEEE International Conference on Image Processing (ICIP'03)*, Sep 2003
- [C-34] Brown M. S., Seales W. B. (2002) "A Practical and Flexible Tiled Display System," *Pacific Graphics (PG'02)*, Oct 2002
- [C-35] Yang, R.G., Gotz D., Hensley J., Towles H., Brown M. S. (2001) "PixelFlex: A Reconfigurable, Multi-projector Display System," *IEEE Visualization (VIS'01)*, Oct 2001
- [C-36] Jaynes C. O., Webb S. B., Seales, W. B., Brown M. S., and Steel R. W. (2001) "Dynamic Shadow Removal from Front Projection Display," *IEEE Visualization (VIS'01)*, Oct 2001
- [C-37] Brown M. S., Seales W. B. (2001) "Digital Atheneum: New Approaches for Preserving, Restoring, and Analyzing Damaged Manuscripts," *IEEE and ACM Joint Conference on Digital Libraries (JCDL'01)*, Jun 2001 [Nominated for Best Paper Award]
- [C-38] Brown M. S., Seales W. B. (2001) "Document Restoration using 3D Shape," *IEEE International Conference on Computer Vision (ICCV'01)*, Jul 2001
- [C-39] Brown M. S., Seales W. B. (2001) "3D Imaging of Humanities Texts," *Association of Computing and the Humanities Conference (ACH/ALLC)*, Jun 2001
- [C-40] Brown M. S., Seales W. B. (2000) "Beyond 2D Images: Effective 3D Imaging for Library Materials," *ACM Conference on Digital Libraries (ACM DL'00 [later to become JCDL])*, Jun 2000
- [C-41] Yang R., Brown M.S., Seales W.B., Fuchs H. (1999). "Geometrically Correct Imagery for Teleconferencing," *ACM Multimedia (ACM-MM'99)*, Nov 1999

[C-42] Raskar R., Brown M. S., Yang R.G, Chen W.C., Welch, G., Towles H., Seales W.B., Fuchs H. (1999) “Seamless Camera-Registered Multi-Projector Display over Irregular Surfaces,” *IEEE Visualization (VIS’99)*, Oct 1999

[C-43] Elsayed E. , Brown M.S., Seales W. B. (1999) “Cooperative Stereo: Combining Edge-Based and Area-Based Stereo,” *IEEE Aerospace Conference*, Feb 1999

[C-44] Brown M.S., Seales W. B. (1998) “Fast Stereo Matching in Compressed Video”, *Asian Conference on Computer Vision (ACCV’98)*, Jan 1998

#### **WORKSHOP PAPERS AFFILIATED WITH CONFERENCES**

[C-45] Lu Z., Wu Z., Brown M.S. (2009) “Interactive Binarization for Degraded Documents”, Workshop on Applications of Computer Vision (**WACV’09**), Dec 2009

[C-46] Yang R. G., Majumder A., Brown M. S. (2004) “Camera-Based Calibration Techniques for Seamless Multi-Projector Displays”, *Workshop on Computer Vision Applications, Part of European Conference on Computer Vision (ECCV’04)*, May 2004

[C-47] Seales W. B, Yuan C.J., Brown M.S. (1997) “Efficient Content Extraction In Compressed Images,” *IEEE Workshop on Content-Based Access of Image and Video Libraries*, Part of *IEEE Computer Vision and Pattern Recognition (CVPR’97)*, Jun 1997

#### **OTHERS PUBLICATIONS**

(The following are notable peer reviewed abstracts for presentation at the American Roentgen Ray Society (ARRS) and Radiological Society of North America (RSNA), medical conferences for radiologists. This work is in partnership with colleague and senior author from Cornell University, Asst Prof. George Shih, MD, at the Weill Cornell Medical Center in New York.)

[C-48] Roy S., Yao, M. J., M.S. Brown, Shih G. (2011) “Visual Interpretation with Three-Dimensional Annotations (VITA): Open Source Automated 3D Visual Summary Application Using Annotation Imaging Markup (AIM) Enabled PACS Based On Radiologist Annotations”, **RSNA Annual Meeting**, Chicago, Nov 2011

[C-49] Amans M., Yeh C., Brown M.S., Zheng L., Shih G. (2009) “Wireless Devices Enhances Resident Case Conferences”, **ARRS Annual Meeting**, Boston, Apr 2009

[C-50] Yeh C., Amans M., Shih G., Kutch F., Brown M.S., Zheng L. (2009) “Nintendo Wii Remote (Wiimote) as Alternative Input Device for Reviewing Radiology Exams”, **ARRS Annual Meeting**, Boston, Apr 2009

#### **TUTORIAL/COURSES**

□ CVPR 2005 – Morning Tutorial  
*Computer-Vision Techniques for Building Projector-Based Displays*  
Co-Organizer Aditi Majumder, UC-Irvine

□ ECCV 2004 – Morning Tutorial  
Tutorial #5: *Camera-Based Techniques for Building Large-Area Multi-Projector Displays*  
Co-Organizer Aditi Majumder, UC-Irvine

□ SIGGRAPH 2003 – Half Day Course  
Course #39: *Large-Scale Displays for the Masses: Recent Techniques for Building Affordable and Flexible Tiled Displays*  
Co-Organizer Aditi Majumder, UC-Irvine

□ EUROGRAPHICS 2003 – Half Day Course  
Tutorial #8: *Building Large Format Displays* (Co-Organizer Aditi Majumder UC-Irvine)

CONFERENCE/  
WORKSHOP  
SPEAKER

- NIPS Workshop on Computational Photography Meets Machine Learning, Spain Dec 2011  
**(Invited Speaker)** “Modeling the Digital Camera Pipeline: From RAW to sRGB and Back”
- Dunhuang Academy Forum 2011, Dunhuang , China Aug 2011  
**(Invited Speaker)** “Imaging and Graphics in Singapore for eHeritage”
- Interactive Digital Media Symposium (UIUC/ADSC), Singapore July 2011  
**(Invited Speaker)** “Imaging and Graphics in Singapore for eHeritage”
- “Modeling the Digital Camera Pipeline: From RAW to sRGB and Back”
- Australian Computer Vision and Pattern Recognition Summer School, March 2011  
**(Invited Speaker)** “Applications in Computational Photography”
- Workshop on Preservation of Recorded Heritage, Singapore, March 2010  
**(Invited Speaker)** “Digital Correction of Ink-Bleed in Manuscripts Records”
- Digital Imaging Computing: Techniques and Applications, (DICTA), Melbourne, Dec 2009  
**(Keynote)** “Interactive Computer Vision -- Exploiting the Human Prior”
- International Conference on Records and Archives, Singapore , June 2008  
**(Invited Speaker)** “Building Software for Dealing with Ink-Bleed in Manuscripts Records”
- International Conference on VR and Applications, Tianjin China, Oct 2003  
**(Invited Speaker)** “Advances in Projector Based Display Design”

INVITED TALKS

- “Modeling the Digital Camera Pipeline: From RAW to sRGB and Back”  
Johannes Kepler University, (March 2012)
- “Modeling the Digital Camera Pipeline: From RAW to sRGB and Back”  
University of Kentucky, (Jan 2012)
- “Modeling the Digital Camera Pipeline: From RAW to sRGB and Back”  
HP Labs (via Halo Teleconference), California (Aug 2011)
- “Interactive Visualization of Hyperspectral Images of Old Documents”  
Australian National University-NICTA, Canberra Australia (March 2011)
- “Interactive Computer Vision”  
University of Adelaide, South Australia (Nov 2009)
- “Research on Interactive Computer Vision”  
Zhejiang University (CAD/CAM State Key Lab), Hangzhou China (April 2009)
- “Tools for Scholars Studying Old Documents”  
eHeritage Workshop – sponsored by MSRA, Beijing China (July 2008)
- “Shape Palettes”  
University of Kentucky, (May 2008)
- “Shape Palettes”  
Western Australia University, Perth (July 2007)
- “Advances in Building Large Scale Displays”  
National University of Singapore, (March 2005)
- “Acquiring, Restoring, and Analyzing Medieval Manuscripts”  
Colorado School of Mines, Golden Colorado (Feb 2005)
- “Recent Camera-based Techniques for Building Large Scale Displays”  
Zhejiang University (CAD/CAM State Key Lab), Hangzhou China (April 2004)
- “Easily-Constructed Large Scale Displays”  
Microsoft Research Asia, Beijing China (August 2002)
- “Working-Set Compression: I-Frame Reduction for Encoded Video”  
Xi’an Electronic Institute (State Key Lab), Xi’an China (June 2002)
- “Digital Special Collections”  
Department of Computer Science, Simon Fraser University, Canada (Nov 2001)

“Digital Special Collections”  
Department of Computer Science, University of Bristol, England (June 2000)

PHD THESIS  
SUPERVISED

Lu Zheng (Ph.D. 2011)  
Title: “High-Resolution Imaging for e-Heritage”, National University of Singapore, Dec 2011  
(Current Position: Assuming Post-Doc at U. Texas Austin in 2012)

Yu-Wing Tai (Ph.D. 2009)  
Title: “Bayesian Optimization for Image Segmentation, Texture Flow Estimation, and Image Deblurring”, National University of Singapore, June 2009  
(Current Position: Assistant Professor - Korean Advanced Institute of Technology (KAIST))

Yau-Chat (Desmond) Tsoi (Ph.D. 2009)  
Title: “Geometric and Photometric Distortion Correction for Camera-Imaged Documents: A Unified Approach using Boundary”, Nanyang Technological University, April 2009  
(Current Position: Lecturer - City University of Hong Kong)

MASTERS THESIS  
SUPERVISED

Liu Shuaicheng (MPhil.’10, NUS)  
Current Position: PhD Student, NUS-ECE (advisor: Dr. Tan Ping)

Fong Heung Wah (M.Phil. 2004, HKUST)  
Current Position: Lead Programmer – Virtuos, Shanghai

William Wong (M.Sc. 2004, HKUST)  
Current Position: Multimedia Designer - Yocolabs, Hong Kong

Tsang Kin Ting (M.Phil.’04, HKUST)  
Current Position: Software Engineer – Harmonics Inc, Hong Kong

Ruiduo (Alan) Yang (M.Phil.’02, HKUST)  
Current Position: Senior Graphics Scientist – Qualcomm, USA (after PhD from U.SF)

CURRENT  
STUDENTS

- Gao Junhong (Ph.D. expected 2012)
- Lin Haiting (Ph.D. expected 2012)
- Deng Fanbo (Ph.D. expected 2012)
- Sharmili Roy Sethy (Ph.D. expected 2014)
- Cheng Dongliang (Ph.D. expected 2015)
- Li Yu (Ph.D. expected 2015)

CURRENT STAFF

N/A

FORMER STAFF

- Lu Zheng
- Seon Joo Kim
- Zhuo Shaojie
- Wu Zheng
- Vu Anh Huynh
- Poon-Wei Koot

EXTERNAL PH.D.  
EXAMINER

Cong Phuoc Huynh, Ph.D. Candidate, Computer Science, Australian National University (ANU), Nov 2011

Arnav V. Bhavsar, Ph.D. Candidate, Electrical Engineering, Indian Institute of Technology (IIT) – Madras, July 2011

Steve Oldridge, Ph.D. Candidate, Computer Science, University of British Columbia, Jan 2011

□ Yang-Wai Chow, Ph.D. Candidate, Computer Science, Monash University (Australia) Oct 2006

UNIVERSITY  
SERVICE

□ **National University of Singapore**

- Assistant Dean (External relations), April 2011 - present
- Vietnam/SoC workshop 2010 (Ho Chi Ming), 2011 (Hanoi)
- Active in undergraduate seminars (Freshman Seminar, SM2 Seminar)
- Discretionary admissions interviewer 2008/2009
- Recruitment/Outreach, Vietnam 2009 (Ho Chi Ming City/Hanoi),
- Co-host for Vietnam/SoC workshop 2009 (Singapore)
- Numerous recruitment talks to Singapore polytechnics and junior colleges

MISC

Since 2005, I've been trying to run a marathon a year:  
St. Louis Marthon'05 (USA), Perth Marathon'07'08'09 (Western Australia),  
Grassland Extreme Marathon'10 (Inner-Mongolia), China Coast Marathon'11 (Hong Kong),  
Singapore Sundown Marathon'11