

Curriculum Vitae

Michael S. Brown

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EDUCATION	University of Kentucky Ph.D. in Computer Science	Lexington, KY, USA 2001
	University of North Carolina at Chapel Hill Visiting Ph.D. Student	Chapel Hill, NC, USA 1998-2000
	University of Kentucky B.S. in Computer Science	Lexington, KY, USA 1995
RESEARCH INTERESTS	<input type="checkbox"/> Computer vision, image processing, color science	
WORK EXPERIENCE	<input type="checkbox"/> York University Professor & Canada Research Chair	Toronto, ON, Canada 2016 – Present (on leave 2019-2020)
	<input type="checkbox"/> Samsung AI Center (SAIC-Toronto) Senior Research Director/Principal Engineer	Toronto, ON, Canada (part-time) 2020 – current (full-time) 2019 – 2020
	<input type="checkbox"/> National University of Singapore Associate Professor Vice Dean (Corporate Relations) Assistant Dean (Corporate Relations) <i>Sung Kah Kay</i> Assistant Professor	Singapore 2010 – 2016 2013 – 2016 2011 – 2013 2007 – 2009
	<input type="checkbox"/> Nanyang Technological University Assistant Professor	Singapore 2005 – 2007
	<input type="checkbox"/> California State University – Monterey Bay Assistant Professor	Monterey, CA, USA 2004 – 2005
	<input type="checkbox"/> Hong Kong University of Science and Technology Assistant Professor	Hong Kong, PRC 2001 – 2004
(SCIENTIFIC ADVISOR)	<input type="checkbox"/> MARZ	Jan 2022 – current
	<input type="checkbox"/> Harbinger Robotics	Feb 2021 – current
	<input type="checkbox"/> Scanwell Health	Oct 2020 – Jan 2022 (acquired by BD Health)
	<input type="checkbox"/> DreamVu	Sep 2018 - current
(INDUSTRY)	<input type="checkbox"/> System Analyst, Black Isle Systems	1995 – 1996 Avoch, Scotland
	<input type="checkbox"/> Unix Programmer, Lexmark International	1994 – 1995 Lexington, KY, USA

HONORS/AWARDS

- Best Paper Award, 27th IS&T Color Imaging Conference (CIC27), 2019
- Canada Research Chair (Tier 1) in Computer Vision, 2017
- Google Research Award, 2015
- 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 five years.)
- Sung Kah Kay Professorship (2007-2009)
- Young Investigator Award (NUS), 2008
- Best Student Paper, ACM/IEEE JCDL, 2008 (Authored with Huang Yi)
- College of Engineering's Teaching Award (HKUST), 2002
- Outstanding Reviewer, CVPR 2008, CVPR 2017, BMVC 2017

ACTIVITIES

- **Editorial Board/Associate Editor**
 - International Journal of Computer Vision (IJCV), 2013–2021
 - IEEE Transactions on Pattern Analysis & Machine Intelligence (PAMI), 2011–16
 - Computer Graphics Form (CGF), 2013–2016
- **Guest Editor**
 - International Journal on Computer Vision (IJCV), Special Issue on eHeritage (2011)
- **Conference/Workshop Organizer**
 - General Chair, IEEE/CVF CVPR 2018/21/23
 - Program Chair, Canadian Conference on Robotic and Computer Vision, 2019/20
 - Program Chair, IEEE/CVF WACV 2011/12/17/19
 - Program Chair, Indian Conf on CV, Graphics, & Image Processing 2016
 - Program Chair, International Conference on 3D Vision (3DV) 2015
 - General Chair, ACCV 2014
 - General Chair, Pacific Graphics 2013/23
 - General Chair, IEEE Winter Conference on Applications of Computer Vision, 2013
 - General Chair, Workshop on Historical Document Processing (HIP), 2011
 - Demo Chair, CVPR 2014
 - Courses Chair, SIGGRAPH-Asia 2012
 - Co-Chair, IEEE Workshop on heritage, at ICCV 2009
 - Co-Chair, ACM/IEEE Workshop on Projector-Camera Systems, at SIGGRAPH'08
- **Area Chair (or equivalent)**
 - IEEE International Conference on Computer Vision (ICCV) 2011/13/15/17/19/21/23
 - IEEE Conf. on Computer Vision and Pattern Recognition (CVPR) 2009/11/13/22
 - International Conference on 3D Vision (3DV) 2017/21
 - European Conference on Computer Vision (ECCV), 2012/20/22
 - Asian Conf. on Computer Vision (ACCV) 2010/12/16/20
 - British Machine Vision Conference (BMVC) 2018
 - Pacific Graphics 2010/11/12/14
- **Grant/Proposal Reviewer**
 - Austrian Science Fund, 2012/13/16/17/20
 - Samsung Research, 2019
 - Mitacs, Canada 2017/18/19/20/21/22/23
 - NSERC, Canada, 2011/14/16/18/19/20/21/22/23
 - Hong Kong Research Grant Council, 2001/11/12/13/14/17/18
 - National Research Foundation (NRF – Singapore), 2013
 - Israel Science Foundation (ISF), 2012/17/18/19/20/23

GRANTS/GIFTS

CURRENT GRANTS/GIFTS

- **(PI)** NSERC-Discovery Grant
“Next Generation AI-Based Camera Pipelines”
2023 – 2028, CAD\$345,000
- **(PI)** VISTA project award
“Next Generation Space Camera”
2021 – 2024, CAD\$50,000
- **(PI)** Adobe Research (Gift Donation)
“On Color Processing”
2020 – open, ~CAD\$50,000
- **(PI)** Canadian Foundation for Innovation-John R. Evan Leaders Fund (CFI-JELF)
“Infrastructure Award”
2019-2022, CAD\$291,000
- **(PI)** NSERC-Discovery Grant
“Modelling Image Formation and In-Camera Imaging Pipelines”
2017-2022, CAD\$300,000
- **(PI)** Samsung (Gift Donation)
“AI Camera”
2019 – open, ~CAD\$78,000
- **(PI)** Adobe Research (Gift Donation)
“On Color Processing”
2016 – open, ~CAD\$24,000
- **(PI)** Google Research Award (Gift Donation)
“Low-Cost Colorimetric Calibration for Mobile Cameras”
2015 – 2016, ~S\$56,000 (USD\$40,000)
- **(PI)** Adobe Research (Gift Donation)
“On White Balancing”
2014 – open, ~S\$54,000 (~USD\$39,000)

CONTRACTS/CONSULTANCY

- Able Innovation - York Innovation Award – (CAD\$12,000)
- MITACS Accelerate – (10 x CAD\$15,000)
- Euclid Labs (Startup) - Ontario Centre for Excellent Talent Edge (CAD\$40,000)
- NUDEST Inc (Startup) – Contract (USD\$10,000)

PREVIOUS GRANTS (NUS)

- **(PI)** Microsoft Research Asia
“Linearizing the Xbox Kinect for Computer Vision Applications”
2012-2016, ~S\$44,100 (USD\$ 35,000)
- **(PI)** FRC'12 (Faculty Research Committee)
“Next Generation Medical Reporting”
2012 -2015, S\$56,500 (~USD\$ 45,406)
- (PI)** Agency for Science, Technology Research (A*STAR) Public Sector Funding
“Spectral Imaging for Consumer Cameras”
2012-2015, S\$652,600 (~USD\$ 519,000)
- **(PI)** FRC'09 (Faculty Research Committee)
“User-assisted Extraction of 3D Scene Properties from Images and Videos”
2010 -2013 , S\$50,000 (~USD\$ 35,206)
- **(PI)** NUS-Young Investigator Award (YIA'08)
“Hyperspectral Imaging of Old and Damaged Manuscripts”
2009 – 2012, S\$500,000 (~USD\$350,000)
- **(PI)** AcRF Tier 1
“Perceptual Fidelity and Seamlessness in Projector-Based Displays”
2008-2010, S\$149,000 (~USD\$104,300)
- **(PI)** Agency for Science, Technology Research (A*STAR) Public Sector Funding
“Imaging and Restoration Techniques for Historical Archives”
2008-2010, S\$426,050 (~USD\$298,200)

PATENTS

[P-10] Afifi M., Brown M.S., Derpanis K., Ommer B. “Network for correcting overexposed and underexposed images,” US Patent 11,838,641, Dec 2023.

[P-9] Afifi M., Brown M.S. “Apparatus and method for white balance editing,” US Patent 11,729,362, Aug 2023

[P-8] Brown M. S. “System and method for image color management,” US Patent 11,665,273, May 2023

[P-7] Abdelhamed A., Brown M.S., J.H. Yim, J Choi, Kim K. “System and method for obtaining and applying a vignette filter and grain layer,” US Patent 11,631,202, Mar 2023

[P-6] Afifi M., Brown M.S. “Systems and methods for sensor-independent illuminant determination,” US Patent 11,455,535, Nov 2022

[P-5] Brown M.S., Punnappurath A. “Method and system for customizing camera parameters,” US Patent 11,451,703, Nov 2022

[P-4] Brown M.S., Punnappurath A. “System and method for reflection removal using dual-pixel sensor,” US Patent 11,416,972, Aug 2022

[P-3] Brown M.S., Karaimer H. C. “Systems, methods and computer programs for colorimetric mapping,” US Patent 11,350,070, May 2022

[P-2] Afifi M., Brown M.S., Price B., Cohen S. “Image White Balancing,” US Patent 11,044,450, Jun 2021

[P-1] Wu T.P., Tang C.K., Brown M.S., Shum H.Y. “Imparting Three-Dimensional Characteristics in a Two-Dimensional Space,” US 8,564,590 B2, Oct 2013

PUBLICATIONS

BOOK

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

BOOK CHAPTERS

[BC-5] Chapter 4, “Color Processing for Digital Cameras”
Michael S. Brown
Book: Fundamentals and Applications of Colour Engineering, Wiley 2023
Editor: Phil Green

[BC-4] Chapter 3, “Hybrid-imaging for Motion Deblurring”
Moshe Ben-Ezra, Yu-Wing Tai, Michael S. Brown and Shree Nayar
Book: Motion Deblurring, Algorithms and Systems, Cambridge Uni. Press, 2014
Editors: Rajagopalan and Chellappa

[BC-3] Chapter 5, “Richardson–Lucy Deblurring for Scenes Under a Projective Motion Path”
Yu-Wing Tai and Michael S. Brown
Book: Motion Deblurring, Algorithms and Systems, Cambridge Uni. Press, 2014
Editors: Rajagopalan and Chellappa

[BC-2] Chapter 12, “Correction of Spatially Varying Image and Video Motion Blur Using a Hybrid Camera”
Yu-Wing Tai and Michael S. Brown
Book: Image Restoration: Fundamentals and Advances, CRC Press, 2012
Editor: Gunturk, Li

[BC-1] Chapter 11, “Digital Libraries” – Michael S. Brown
Book: Multimedia Information Retrieval and Management, Springer, 2002
Editors: Feng, Siu, Zhang

JOURNAL PUBLICATIONS

[J-52] Xue D., Vazquez-Corral J., Herranz L., Zhang Y.N., Brown M. S. (2023) “Integrating High-Level Features for Consistent Palette-based Multi-image Recoloring,” *Computer Graphics Forum* (Proc. Pacific Graphics), Oct 2023

[J-51] Zhao L., Abdelhamed A., Brown M.S. (2022) “Learning Tone Curves for Local Image Enhancement,” *IEEE Access*, May 2022

[J-50] Tedla S., Wang Y.Y., Patel M., Brown M.S. (2022) “Analyzing Color Imaging Failure on Consumer-Grade Cameras,” *Journal of Optical Society of America – A (JOSA)*, Feb 2022

[J-49] Punnappurath A. and Brown M. S. (2021) “A little bit more: Bitplane-wise bit-depth recovery,” *IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)*, Nov 2021

[J-48] Mauricio D., Damien K., Brown M.S., Peyman M. (2021) “Mobile Computational Photography: A Tour,” *Annual Review of Vision Science (ARVS)*, 7:1, Sep 2021

[J-47] Afifi M., Abdelhamed A., Abuolaim A., Punnappurath A., and Brown M. S. (2021) “CIE XYZ Net: Unprocessing Images for Low-Level Computer Vision Tasks,” *IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)*, accepted, Mar 2021

[J-46] Paknezhad M, Brown M. S., Marchesseau S. (2020) “Improved Tagged Cardiac MRI Myocardium Strain Analysis by Leveraging Cine Segmentation,” *Computer Methods and Programs in Biomedicine*, vol 184, Feb 2020

[J-45] Punnappurath A., Brown M. S. (2019) “Learning Raw Image Reconstruction-Aware Deep Image Compressors,” *IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)*, accepted, Mar 2019

[J-44] Afifi M., Punnappurath A., Finlayson G., Brown M. S. (2019) “As-Projective-As-Possible Bias Correction for Illumination Estimation Algorithms,” *Journal of Optical Society of America – A (JOSA)*, 36(1), 2019

[J-42] Nguyen R., Brown M. S. (2018) “RAW Image Reconstruction using a Self-Contained sRGB-JPEG Image with Small Memory Overhead,” *International Journal of Computer Vision (IJCV)*, 126(6), Jun 2018

[J-43] Li Y., You S., Brown M. S., Tan R. (2017) “Haze visibility enhancement: A Survey and quantitative benchmarking,” *Computer Vision and Image Understanding (CVIU)*, 165, Dec 2017

[J-41] Nguyen R., Price B., Cohen S., Brown M. S. (2017) “Group-Theme Recoloring for Multi-Image Color Consistency,” *Computer Graphics Forum* (Proc. Pacific Graphics), 36(7), Oct 2017

[J-40] Li Y., Tan R., Gou X., Lu J.B., Brown M. S. (2017) “Single Image Rain Streak Decomposition Using Layer Priors,” *IEEE Transactions on Image Processing (T-IP)*, 26 (8), Aug 2017

[J-39] Chu A. H. Y., Ng S. H. X., Paknezhad M., Gauterin A., Koh D., Brown M.S., Müller-Riemenschneider F. (2017) “Comparison of wrist-worn Fitbit Flex and waist-worn ActiGraph for measuring steps in free-living adults,” *PLoS ONE* 12(2), Feb 2017

- [J-38] Paknezhad, M. Marchesseau, S., Brown M. S. (2016) “Automatic Basal Slice Detection for Cardiac Analysis,” *Journal of Medical Imaging (JMI)*, 3(3), Jul 2016
- [J-37] Park J., Kim H., Tai Y-W., Brown M. S., Kweon I.S. (2014) “High Quality Depth Map Upsampling and Completion for RGB-D Cameras,” *IEEE Transactions on Image Processing (T-IP)*, 23(12), Dec 2014
- [J-36] Roy S., Chi Y., Liu J., Venkatesh S., Brown M. S. (2014) “Three-Dimensional Spatio-Temporal Features for Fast Content-based Retrieval of Focal Liver Lesions,” *IEEE Transactions on Biomedical Engineering (T-MBE)*, 61(11), Nov 2014
- [J-35] Nguyen R., Kim S. J., Brown M. S. (2014) “Illuminant Aware Gamut-Based Color Transfer,” *Computer Graphics Forum (Proc. Pacific Graphics)*, 33(7), Oct 2014
- [J-34] Prasad D., Leung M., Quek C., and Brown M.S. (2014) “DEB: Definite error bounded tangent estimator for digital curves,” *IEEE Transactions on Image Processing (T-IP)*, 23(10), Oct 2014
- [J-33] Zaragoza J., Chin T.-J., Tran Q.-H., Brown M. S., Suter D. (2014) “As-Projective-As-Possible Image Stitching with Moving DLT,” *IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)*, 36 (7), July 2014
- [J-32] Cheng D.L., Prasad D. K., Brown M. S. (2014) “Illuminant Estimation for Color Constancy: why spatial domain methods work and the role of the color distribution,” *Journal of Optical Society of America – A (JOSA)*, 31(5), May 2014
- [J-31] Prasad D. K., and Brown, M.S. (2014) “Design of macro-filter-lens with simultaneous chromatic and geometric aberration correction,” *Applied Optics (OSA)*, 53(1), Jan 2014
- [J-30] Roy S., Brown M. S., Shih G. (2013) “Visual Interpretation with Three-Dimensional Annotations (VITA): Three-Dimensional Image Interpretation Tool for Radiological Reporting,” *Journal of Digital Imaging (JDI)*, Aug 2013
- [J-29] Tai Y.-W., Chen X., Kim S., Kim S. J, Li F., Yang J., Yu J., Matsushita Y., Brown M. S. (2013) “Nonlinear Camera Response Functions and Image Deblurring: Theoretical Analysis and Practice,” *IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)*, 35(10), Oct 2013
- [J-28] Cheng D.L., Prasad D. K., Brown M. S. (2013) “Online tracking of deformable objects under occlusion using dominant points,” *Journal of Optical Society of America – A (JOSA)*, 30(8), Aug 2013
- [J-27] Lu Z., Tai Y.-W., Deng F., Ben-Ezra M., Brown M.S. (2012) “A 3D Imaging Framework Based on High-Resolution Photometric-Stereo and Low-Resolution Depth,” *International Journal of Computer Vision (IJCV)*, 102(1-3), Mar 2013
- [J-26] 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)*, 34(12), Dec 2012
- [J-25] Gao J. H., Kim S. J., Brown M. S. (2012) “Creating Picture Legends for Group Photos,” *Computer Graphics Forum (Proc. of Eurographics Conference)*, May 2012
- [J-24] 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)*, 5(3), Oct 2012

- [J-23] 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-22] 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-21] Kim S. J., Deng F.B., Brown M. S. (2011) "Visual Enhancement of Old Documents with Hyperspectral Imaging," *Elsevier Pattern Recognition*, Jan 2011
- [J-20] 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-19] 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)*, 16(6), Nov-Dec 2010
- [J-18] 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-17] 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-16] 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-15] 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 Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)*, 32(6), Jun 2010
- [J-14] 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-13] 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-12] 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-11] 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-10] Brown M.S., Sun M., Yang R.G., Lin Y., Seales B. (2007) "Restoring 2D Content from Distorted Documents," *IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)*, 29(11), Nov 2007
- [J-9] 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-8] 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-7] 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-6] 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-5] Brown M. S., Seales W. B. (2004) "Image Restoration of Arbitrarily Warped Documents," *IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)*, 26(10), Oct 2004
- [J-4] 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-3] 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-2] 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-1] 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/WORKSHOP

- [C-120] [C-44] Conde M., Vazquez-Corral J., Brown M. S., Timofte R. (2024) "NILUT: Conditional Neural Implicit 3D Lookup Tables for Image Enhancement," *Association for the Advancement of Artificial Intelligence Conference (AAAI)*, Feb 2024
- [C-119] Canham T.D., Vazquez-Corral J. Long D. L., Murray R.F., Brown M.S. (2023) "Noise Prism: A Novel Multispectral Visualization Technique," *Color and Imaging Conference (CIC)*, Nov 2023 [**Best Student Paper Award**]
- [C-118] Seo D., Punnappurath A., Zhao L.X., Abdelhamed A., Tedla S.K., Park S., Choe J.H., Brown M.S. (2023) "Graphics2RAW: Mapping Computer Graphics Images to Sensor RAW Images," *IEEE International Conference on Computer Vision (ICCV'23)*, Oct 2023
- [C-117] Ershov E., Tesalin V., Ermakov I., Brown M.S. (2023) "Physically-Plausible Illumination Distribution Estimation," *IEEE International Conference on Computer Vision (ICCV'23)*, Oct 2023
- [C-116] Tedla S.K., Yang B., Brown M.S. (2023) "Examining Autoexposure for Challenging Scenes," *IEEE International Conference on Computer Vision (ICCV'23)*, Oct 2023
- [C-115] Le H., Price B., Cohen S., Brown M.S. (2023) "GamutMLP: A Lightweight MLP for Color Recovery," *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'23)*, Jun 2023
- [C-114] Canham T.D., MacKenzie I.S., Murray R.F., Brown M.S. (2023) "The Effect of Perceptual Optimization on Color Space Navigation," *Graphics Interface (GI'23)*, May 2023
- [C-113] MacPherson I., Murray R., Brown M.S. (2022) "A 360-degree Omnidirectional Photometer using a Ricoh Theta Z1," *Color and Imaging Conference (CIC'22)*, Nov 2022

- [C-112] Nam S.H., Brubaker M., Brown M.S. (2022) “Neural image representations for multi-image fusion and layer separation,” *European Conference on Computer Vision (ECCV’22)*, Oct 2022
- [C-111] Punnappurath A., Abuolaim A., Abdelhamed A., Levinshtein A., Brown M.S. (2022) “Day-to-Night Image Synthesis for Training Nighttime Neural ISPs,” *IEEE Conference on Computer Vision and Pattern Recognition (CVPR’22)*, Jun 2022
- [C-110] Maley A., Kousha S., Brubaker M., Brown M.S. (2022) “Noise2NoiseFlow: Realistic Camera Noise Modeling Without Clean Images,” *IEEE Conference on Computer Vision and Pattern Recognition (CVPR’22)*, Jun 2022
- [C-109] Kousha S, Maley A., Brubaker M., Brown M.S. (2022) “Modeling sRGB Camera Noise With Normalizing Flows,” *IEEE Conference on Computer Vision and Pattern Recognition (CVPR’22)*, June 2022
- [C-108] Nam S.H., Punnappurath A., Brubaker M., Brown M.S. (2022) “Learning sRGB-to-Raw-RGB De-Rendering With Content-Aware Metadata,” *IEEE Conference on Computer Vision and Pattern Recognition (CVPR’22)*, Jun 2022
- [C-107] Abuolaim A., Afifi M., Brown M.S., (2022) “Improving Single-Image Defocus Deblurring: How Dual-Pixel Images Help Through Multi-Task Learning,” *IEEE/CVF Winter Conference on Applications of Computer (WACV’22)*, Jan 2022
- [C-106] Afifi M., Brubaker M.A., Brown M.S. (2022) “Auto White-Balance Correction for Mixed-Illuminant Scenes,” *IEEE/CVF Winter Conference on Applications of Computer (WACV’22)*, Jan 2022
- [C-105] Abdelhamed A., Yim J., Punnappurath A., Choe J., Brown M.S., Kim K. (2022) “Extracting Vignetting and Grain Filter Effects From Photos,” *IEEE/CVF Winter Conference on Applications of Computer (WACV’22)*, Jan 2022
- [C-104] Hoang L., Jeong T., Abdelhamed A., Shin H.J., and Brown M.S. (2021) “GamutNet: Restoring Wide-Gamut Colors for Camera-Captured Images,” *Color and Imaging Conference (CIC’21)*, Nov 2021
- [C-103] Abuolaim A., Delbracio M., Kelly D., Brown M. S., Milanfar P. “Learning to reduce defocus blur by realistically modeling dual-pixel data,” *International Conference on Computer Vision (ICCV’21)*, Oct 2021
- [C-102] Abdelhamed A., Punnappurath A, Brown M.S. (2021) “Leveraging the Availability of Two Cameras for Illuminant Estimation,” *IEEE Conference on Computer Vision and Pattern Recognition (CVPR’21)*, Jun 2021
- [C-101] Afifi M., Brubaker M., Brown M.S. (2021) “HistoGAN: Controlling Colors of GAN-Generated and Real Images via Color Histograms,” *IEEE Conference on Computer Vision and Pattern Recognition (CVPR’21)*, Jun 2021
- [C-100] Afifi M., Derpanis K., Bjorn Ommer, Brown M.S. (2021) “Learning Multi-Scale Photo Exposure Correction,” *IEEE Conference on Computer Vision and Pattern Recognition (CVPR’21)*, Jun 2021
- [C-99] Punnappurath A. and Brown M. S. (2021) “Spatially Aware Metadata for Raw Reconstruction,” *IEEE Winter Conference on Applications of Computer Vision (WACV’21)*, Jan 2021
- [C-98] Punnappurath A. and Brown M. S. (2020) “Camera ISP Modification to Enable Image De-rendering,” *Color and Imaging Conference (CIC’20)*, Nov 2020

- [C-97] Le H., Afifi M. and Brown M. S. (2020) “Improving Color Space Conversion for Camera-Captured Images via Wide-Gamut Metadata,” *Color and Imaging Conference (CIC’20)*, Nov 2020
- [C-96] Afifi M. and Brown M. S. (2020) “Interactive White Balancing for Camera-rendered Images,” *Color and Imaging Conference, (CIC’20)*, Nov 2020
- [C-95] Abuolaim A., Punnappurath A., Brown M. S. (2020) “Defocus Deblurring Using Dual-Pixel Data,” *European Conference on Computer Vision (ECCV’20)*, Aug 2020
- [C-94] Afifi M. and Brown M.S. (2020) “Deep White-Balance Editing,” *IEEE Conference on Computer Vision and Pattern Recognition (CVPR’20)*, Jun 2020
- [C-93] Punnappurath A., Abuolaim A., Afifi M., Brown M. S. (2020) “Modeling Defocus-Disparity in Dual-Pixel Sensors,” *International Conference on Computational Photography (ICCP’20)*, Apr 2020
- [C-92] Abdelhamed A., Brubaker M., Brown M. S. (2019) “Noise Flow: Noise Modeling with Conditional Normalizing Flows,” *International Conference on Computer Vision (ICCV’19)*, Oct 2019
- [C-91] Afifi M. and Brown M. S. (2019) “What Else Can Fool Deep Learning? Addressing Color Constancy Errors on Deep Neural Network Performance,” *International Conference on Computer Vision (ICCV’19)*, Oct 2019
- [C-90] Afifi M., Punnappurath A., Abdelhamed A., Karaimer H., Abuolaim A., Brown M. S. (2019) “Color Temperature Tuning: Allowing Accurate Post-capture White-balance Editing,” *Color and Imaging Conference (CIC’19)*, Oct 2019 [**Best Paper Award**]
- [C-89] Karaimer H. and Brown M. S. (2019) “Beyond raw-RGB and sRGB: Advocating access to a colorimetric image state,” *Color and Imaging Conference (CIC’19)*, Oct 2019
- [C-88] Afifi M. and Brown M. S. (2019) “Sensor-Independent Illumination Estimation for DNN Models,” *British Machine Vision Conference (BMVC’19)*, Sep 2019
- [C-87] Afifi M., Price B., Cohen S., Brown M. S. (2019) “When Color Constancy Goes Wrong: Correcting Improperly White-Balanced Images,” *IEEE Computer Vision and Pattern Recognition (CVPR’19)*, Jun 2019
- [C-86] Punnappurath A., Brown M. S. (2019) “Reflection Removal Using A Dual-Pixel Sensor,” *IEEE Computer Vision and Pattern Recognition (CVPR’19)*, Jun 2019
- [C-85] Karaimer H., Khodadad I., Kazemzadeh F., Brown M. S. (2019) “A Customized Camera Imaging Pipeline for Dermatological Imaging,” *ISIC Skin Image Analysis Workshop (at CVPR’19)*, Jun 2019
- [C-84] Abdelhamed A., MacKenzie S., Brown M.S. (2019) “MarkWhite: An Improved Interactive White-Balance Method for Smartphone Cameras,” *Graphics Interface (GI’19)*, May 2019
- [C-83] Afifi M., Price B., Cohen S., Brown M.S. (2019) “Image Recoloring Based on Object Color Distributions,” *Eurographics 2019 (Short Paper)*, May 2019
- [C-82] Abuolaim A., Punnappurath A., Brown M. S. (2018) “Revisiting Autofocus for Smartphone Cameras,” *European Conference on Computer Vision (ECCV’18)*, Sep 2018

- [C-81] Karaimer, H. C., Brown M.S. (2018) "Improving Color Reproduction Accuracy on Cameras," *IEEE Computer Vision and Pattern Recognition (CVPR'18)*, Jun 2018
- [C-80] Abdelhamed A., Lin S., Brown M.S. (2018) "A High-Quality Denoising Dataset for Smartphone Cameras," *IEEE Computer Vision and Pattern Recognition (CVPR'18)*, Jun 2018
- [C-79] Sharma W., Diba A., Neven D., Brown M. S., Van Gool L., Stiefelhagen R. (2018) "Classification-Driven Dynamic Image Enhancement," *IEEE Computer Vision and Pattern Recognition (CVPR'18)*, Jun 2018
- [C-78] Zhu L., Fu C.-W., Brown M.S. (2016) "A Non-Local Low-Rank Framework for Ultrasound Speckle Reduction," *IEEE Computer Vision and Pattern Recognition (CVPR'17)*, Jul 2017
- [C-77] Nguyen R., Brown M. S. (2016) "Forget Luminance Conversion and Do Something Better," *IEEE Computer Vision and Pattern Recognition (CVPR'17)*, Jul 2017
- [C-76] Hu S.X., Price B., Cohen S., Brown M. S. (2017) "Expanding Color Query Results via Image Recoloring," *Eurographics (Short Paper)*, Apr 2017
- [C-75] Paknezhad, M, Brown M.S., Marchesseau S. (2016) "Basal Slice Detection using Long-Axis Segmentation for Cardiac Analysis," *Medical Image Computing and Computer Assisted Intervention (MICCAI'16)*, Oct 2016
- [C-74] Karaimer, H. C., Brown M.S. (2016) "A Software Platform for Manipulating the Camera Imaging Pipeline," *European Conference on Computer Vision (ECCV'16)*, Oct 2016
- [C-73] Li Y., Tan R., Brown M.S. (2016) "Rain Streak Removal Using Layer Priors," *IEEE Computer Vision and Pattern Recognition (CVPR'16)*, Jun 2016
- [C-72] Nguyen R., Brown M. S. (2016) "RAW Image Reconstruction using a Self-Contained sRGB-JPEG Image with only 64 KB Overhead," *IEEE Computer Vision and Pattern Recognition (CVPR'16)*, Jun 2016
- [C-71] S. W. Oh, M. S. Brown, M. Pollefeys, S. J. Kim (2016) "Do It Yourself Hyperspectral Imaging with Everyday Digital Cameras," *IEEE Computer Vision and Pattern Recognition (CVPR'16)*, Jun 2016
- [C-70] Cheng D. L., Kamel A., Price B., Cohen S., Brown M. S. (2016) "Two Illuminant Estimation and User Correction Preference," *IEEE Computer Vision and Pattern Recognition (CVPR'16)*, Jun 2016
- [C-69] Zakizadeh R, Brown M. S., Finlayson G. (2015) "A Hybrid Strategy For Illuminant Estimation Targeting Hard Images," *5th Color and Photometry in Computer Vision Workshop (at ICCV'15)*, Dec 2015
- [C-68] Nguyen R., Brown M. S. (2015) "Fast and Effective L₀ Gradient Minimization by Region Fusion," *IEEE International Conference on Computer Vision (ICCV'15)*, Dec 2015
- [C-67] Li Y., Tan R., Brown M.S. (2015) "Nighttime Haze Removal with Glow and Multiple Light Colors," *IEEE International Conference on Computer Vision (ICCV'15)*, Dec 2015
- [C-66] Cheng D. L., Price B., Cohen S., Brown M. S. (2015) "Beyond White: Ground Truth Colors for Color Constancy Correction," *IEEE International Conference on Computer Vision (ICCV'15)*, Dec 2015

- [C-65] Li Y., Min D., Lu J., Brown M. S., Minh N. D. (2015) "SPM-BP: Sped-up PatchMatch Belief Propagation for Continuous MRFs," *IEEE International Conference on Computer Vision (ICCV'15)*, Dec 2015
- [C-64] Cheng D. L., Price B., Cohen S., Brown M. S. (2015) "Effective Learning-Based Illuminant Estimation Using Simple Features," *IEEE Computer Vision and Pattern Recognition (CVPR'15)*, Jun 2015
- [C-63] Nguyen R., Prasad D., Brown M. S. (2014) "Training-Based Spectral Reconstruction from a Single RGB image," *European Conference on Computer Vision (ECCV'14)*, Sep 2014
- [C-62] Li Y., Guo F.F., Tan R., Brown M.S. (2014) "A Contrast Enhancement Framework with JPEG Artifacts Suppression," *European Conference on Computer Vision (ECCV'14)*, Sep 2014
- [C-61] Li Y., Brown M. S. (2014) "Single Image Layer Separation using Relative Smoothness," *IEEE Computer Vision and Pattern Recognition (CVPR'14)*, Jun 2014
- [C-60] Nguyen R., Prasad D., Brown M. S. (2013) "Raw-to-raw: Mapping between image sensor color responses," *IEEE Computer Vision and Pattern Recognition (CVPR'14)*, Jun 2014
- [C-59] Chin T.-J., Bustos A. P., Brown M. S., Suter D. (2014) "Fast rotation search for real-time interactive point cloud registration," *ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games (I3D'14)*, Mar 2014
- [C-58] Li Y., Brown M. S. (2013) "Exploiting Reflection Change for Automatic Reflection Removal," *IEEE International Conference on Computer Vision (ICCV'13)*, Dec 2013
- [C-57] Panda J. G., Jawahar C. V., Brown M. S. (2013) "Offline Mobile Instance Retrieval with a Small Memory Footprint," *IEEE International Conference on Computer Vision (ICCV'13)*, Dec 2013
- [C-56] Choi I.C., Kim S.Y., Brown M. S., Tai Y. W. (2013) "A Learning-Based Approach to Reduce JPEG Artifacts in Image Matting," *IEEE International Conference on Computer Vision (ICCV'13)*, Dec 2013
- [C-55] Guo F.F., Li Y., Kankanhalli M., Brown M.S. (2013) "An Evaluation of Wearable Activity Monitoring Devices," *ACM Multimedia - Workshop on Personal Data Meets Distributed*, Oct 2013
- [C-54] Roy S., Liang X., Kitamoto A., Tamura M., Shiroishi T., Brown M. S. (2013) "Phenotype Detection in Morphological Mutant Mice using Deformation Features," *Medical Image Computing and Computer Assisted Intervention (MICCAI'13)*, Sep 2013
- [C-53] Zaragoza J., Chin T.-J., Brown M. S., Suter D. (2013) "Projective-as-Possible Image Stitching with Moving DLT," *IEEE Conference on Computer Vision and Pattern Recognition (CVPR'13)*, Jun 2013
- [C-52] Gao J. H., Yu L., Chin T.-J., Brown M. S. (2013) "Seam-Driven Image Stitching," *Eurographics 2013 (Short Paper)*, May 2013
- [C-51] Gao J. H., Brown M. S. (2012) "An Interactive Image Editing Tool for Correcting Panoramas," *Siggraph Asia '12 (Technical Brief)*, Dec 2012

- [C-50] Deng F., Kim S. J., Tai Y.W., Brown M. S. (2012) "Color-aware Regularization for Gradient Domain Image Manipulation," *Asian Conference on Computer Vision (ACCV'12)*, Nov 2012
- [C-49] Tran Q.H., Chin T.-J., Carneiro, G., Brown M. S., Suter, D. (2012) "In Defence of RANSAC for Outlier Rejection in Deformable Registration," *European Conference on Computer Vision (ECCV'12)*, Oct 2012
- [C-48] Lin H.T., Lu Z., Kim S. J., Brown, M. S. (2012) "Nonuniform Lattice Regression for Modeling the Camera Imaging Pipeline," *European Conference on Computer Vision (ECCV'12)*, Oct 2012
- [C-47] 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)*, Jun 2012
- [C-46] Wei L., 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)*, Jun 2012
- [C-45] Lin H.T., Kim S. J., Süssstrunk S., Brown M. S. (2011) "Revisiting Radiometric Calibration for Color Computer Vision," *IEEE International Conference on Computer Vision (ICCV'11)*, Nov 2011
- [C-44] 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-43] 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-42] 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-41] 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-40] 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-39] 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-38] Hanasusanto G., Wu Z., Brown M.S. (2010) "Ink-Bleed Reduction using Functional Minimization," *IEEE Computer Vision and Pattern Recognition (CVPR'10)*, Jun 2010
- [C-37] Lu Z., Wu Z., Brown M.S. (2009) "Interactive Binarization for Degraded Documents," *Workshop on Applications of Computer Vision (WACV'09)*, Dec 2009
- [C-36] 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-35] 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-34] 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-33] 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-32] 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-31] 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-30] 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-29] Tong W.S., Tang C. K., Brown M. S., Xu Y.Q. (2007) "Example-Based Cosmetic Transfer," *Pacific Graphics (PG'07)*, Oct 2007
- [C-28] 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-27] 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-26] 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-25] 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-24] 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-23] 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-22] 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-21] 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-20] Yang R.D., Brown M.S. (2004) "Music Query using Syntheisa," *IEEE International Conference on Multimedia Expo (ICME'04)*, Jul 2004
- [C-19] 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*, May 2004

- [C-18] Tsoi D., Brown M. S. (2004) "Removal of Dynamic Blemishes from Video," *Asian Conference on Computer Vision (ACCV'04)*, Jan 2004
- [C-17] Brown M. S., Tsoi D. (2004) "Undistorting Imaged Print Materials Using Boundary Information," *Asian Conference on Computer Vision (ACCV'04)*, Jan 2004
- [C-16] Brown M. S., Yang R. D. (2003) "Computer-Assisted Visualization and Analysis of Scholarly Manuscripts," *IS&T Visualization and Data Analysis*, Jan 2004
- [C-15] 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-14] 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-13] 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-12] Brown M. S., Seales W. B. (2002) "A Practical and Flexible Tiled Display System," *Pacific Graphics (PG'02)*, Oct 2002
- [C-11] 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-10] 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-9] 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
- [C-8] Brown M. S., Seales W. B. (2001) "Document Restoration using 3D Shape," *IEEE International Conference on Computer Vision (ICCV'01)*, Jul 2001
- [C-7] Brown M. S., Seales W. B. (2001) "3D Imaging of Humanities Texts," *Association of Computing and the Humanities Conference (ACH/ALLC)*, Jun 2001
- [C-6] 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-5] Yang R., Brown M.S., Seales W.B., Fuchs H. (1999). "Geometrically Correct Imagery for Teleconferencing," *ACM Multimedia (ACM-MM'99)*, Nov 1999
- [C-4] 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-3] Elsayed E., Brown M.S., Seales W. B. (1999) "Cooperative Stereo: Combining Edge-Based and Area-Based Stereo," *IEEE Aerospace Conference*, Feb 1999
- [C-2] Brown M.S., Seales W. B. (1998) "Fast Stereo Matching in Compressed Video," *Asian Conference on Computer Vision (ACCV'98)*, Jan 1998

[C-1] 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* (at 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). This work is in partnership with Prof. George Shih, MD, from the Weill Cornell Medical Center in NYC.)

[A-5] Roy S., M.S. Brown, Shih G. (2012) "Retina Displays: Image Interpolation Methods for Resizing Medical Images for Tablets," *RSNA Annual Meeting*, Chicago, Nov 2012

[A-4] Roy S., M.S. Brown, Shih G. (2012) "Automatic 3D Volume Extraction from 2D Annotations," *RSNA Annual Meeting*, Chicago, Nov 2012
[Winner of the RSNA Trainee Research Prize]

[A-3] 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

[A-2] Amans M., Yeh C., Brown M.S., Zheng L., Shih G. (2009) "Wireless Devices Enhances Resident Case Conferences," *ARRS Annual Meeting*, Boston, Apr 2009

[A-1] 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

TUTORIALS/ COURSES

- ICCV 2023 – Half-Day Tutorial
Understanding the in-camera rendering pipeline and the role of AI and deep learning
- Color Imaging Conference 2020 – Short Course
Color and the In-Camera Image Processing Pipeline
- London Imaging Meeting 2020 – Morning Tutorial
Understanding Color and the In-Camera Image Processing Pipeline
- ICCV 2019 – Half-Day Tutorial
Understanding Color and the In-Camera Image Processing Pipeline for Computer Vision
- Korean Conference for Computer Vision (KCCV) 2019 – Short Tutorial
Understanding Color for Computer Vision
- WACV 2017 – Afternoon Tutorial
Understanding the In-Camera Image Processing Pipeline for Computer Vision
- CVPR 2016 – Morning Tutorial
Understanding the In-Camera Image Processing Pipeline for Computer Vision
- ECCV 2014 – Morning Tutorial
Understanding the In-Camera Image Processing Pipeline for Computer Vision
Co-Organizer Seon Joo Kim, Yonsei University
- ICIP 2013 – Morning Tutorial
From RAW to sRGB and Back: Modeling the Onboard Camera Processing Pipeline
- CVPR 2005 – Morning Tutorial
Computer-Vision Techniques for Building Projector-Based Displays
Co-Organizer Aditi Majumder, UC-Irvine
- ECCV 2004 – Morning Tutorial
Camera-Based Techniques for Building Large-Area Multi-Projector Displays
Co-Organizer Aditi Majumder, UC-Irvine
- SIGGRAPH 2003 – Half Day Course
Recent Techniques for Building Affordable and Flexible Tiled Displays
Co-Organizer Aditi Majumder, UC-Irvine

□ EUROGRAPHICS 2003 – Half Day Course
Building Large Format Displays
Co-Organizer Aditi Majumder, UC-Irvine

CONFERENCE/
WORKSHOP
SPEAKER

- (Invited Speaker) “Robust Color Imaging and the Dual Purpose ISP”
Computational Mobile Computing Workshop @ ECCV, (Online), Oct 2022
- (Invited Speaker) “Robust Color Imaging and the Dual Purpose ISP”
Applications of Computational Imaging Workshop @ WACV'22, USA, Jan 2022
- (Invited Speaker/Panelist) “AI for Computational Imaging”
Samsung AI Forum, Nov 2021
- (Keynote Speaker) “AI and the Camera Imaging Pipeline”
VinAI Day, Vietnam, Sep 2020
- (Keynote Speaker) “Rethinking the camera pipeline to improve photographic and scientific applications”
Samsung AI Forum, Seoul, Korea, Nov 2019
- (Keynote Speaker) “Rethinking the camera pipeline to improve photographic and scientific applications”
Korean Conference on Computer Vision (KCCV'19), Seoul, Korea, July 2019
- (Keynote Speaker) “Colour and Consumer Cameras: The Good, the Bad, the Ugly”
IS&T Twenty-sixth Color and Imaging Conference (CIC26), Vancouver, Nov 2018
- (Keynote Speaker) “Modeling the Digital Camera Pipeline: From RAW to sRGB and Back”
Pattern Recognition and Computer Vision Conference, Guangzhou, China, Nov 2018
- (Invited Speaker) “Data-driven White-Balance: A Cautionary Tale on Using Machine Learning”
CIC26 Workshop on Deep Learning and Color, Vancouver, Nov 2018
- (Keynote Speaker) “Colour and Consumer Cameras: The Good, the Bad, the Ugly,”
Conference on Vision and Intelligent Systems, Waterloo, Canada, Nov 2018
- (Keynote Speaker) “Interactive computer vision: Exploiting meaningful user interaction”
Artificial Intelligence and the Next Generation User Experience Workshop @ SIGCHI, Montréal, April 2018
- (Symposium Speaker) “Colour and Consumer Cameras: The Good, the Bad, the Ugly”
14th Canadian Conference on Computer and Robot Vision, Edmonton, Canada, May 2017
- (Invited Speaker) “Low-level Vision and Curse of the In-Camera Image Processing Pipeline”
New Trends in Image Restoration and Enhancement @ ACCV, Taipei, Taiwan Nov 2016
- (Keynote Speaker) “Color and Commodity Cameras: The Good, the Bad, and the Ugly”
ICCV 5th Color and Photometry in Computer Vision Workshop, Santiago, Chile Dec 2015
- (Invited Speaker) “Data-driven White-Balance: A Cautionary Tale on Using Machine Learning”
ICCV Workshop on Machine Learning for Intelligent Image and Video Processing, Santiago, Chile Dec 2015
- (Panel Speaker) “Computational Photography”
ICME 2015, Torino, Italy, June 2015
- (Invited Speaker) “A Framework for Ultra-High Resolution 3D Imaging”
ICCV13 Workshop on Computer Vision for Accelerated Bioscience, Dec 2013
- (Keynote) “Don't Believe Anything You See: Modern Digital Photography and the Camera Imaging Pipeline”
ACCV12 Workshop on Computational Photography, Korea, Nov 2012
- (Invited Speaker) “Modeling the Digital Camera Pipeline: From RAW to sRGB and Back”
NIPS Workshop: Computational Photography Meets Machine Learning, Spain, Dec 2011
- (Invited Speaker) “Imaging and Graphics in Singapore for eHeritage”
Dunhuang Academy Forum, Dunhuang, China, Aug 2011
- (Invited Speaker) “Imaging and Graphics in Singapore for eHeritage”
Interactive Digital Media Symposium (UIUC/ADSC), Singapore, Jul 2011

- (Invited Speaker) “Applications in Computational Photography”
Australian Computer Vision and Pattern Recognition Summer School, Mar 2011
- (Invited Speaker) “Digital Correction of Ink-Bleed in Manuscripts Records”
Workshop on Preservation of Recorded Heritage, Singapore, March 2010
- (Keynote) “Interactive Computer Vision -- Exploiting the Human Prior”
Digital Imaging Computing: Techniques and Applications, (DICTA), Melbourne, Dec 2009
- (Invited Speaker) “Building Software for Dealing with Ink-Bleed in Manuscripts Records”
International Conference on Records and Archives, Singapore, Jun 2008
- (Invited Speaker) “Advances in Projector Based Display Design”
International Conference on VR and Applications, Tianjin China, Oct 2003

INVITED TALKS

- “Stuff that I have done and that I do now and a few lessons along the way”
University of the Highlands and Isles, Inverness, Scotland (Nov 2023)
- “Robust Color Imaging and the Dual Purpose ISP”
Rochester Institute of Technology (RIT), New York, (Aug 2023)
- “In-Camera Color Processing for Digital Cameras”
Lakehead University – Distinguished Speaker Series, Thunder Bay, Canada (Feb 2021)
- “In-Camera Color Processing for Digital Cameras”
Canadian Society for Color Research, Toronto, Canada (Jan 2021)
- “Understanding Color and the In-Camera Image Processing Pipeline”
Samsung Advanced Institute of Technology (SAIT), Korea (Oct 2020)
- “Rethinking the camera pipeline to improve photographic and scientific applications”
POSTECH, Pohang, Korea (Nov 2019)
- “Rethinking the Camera Pipeline”
Huawei, Shenzhen, China (Jan 2019)
- “Color and Commodity Cameras: The Good, the Bad, and the Ugly”
Baidu, Beijing, China (July 2017)
- “Color and Commodity Cameras: The Good, the Bad, and the Ugly”
Google, Mountain View (Dec 2015)
- “Color and Commodity Cameras: The Good, the Bad, and the Ugly”
Adobe, San Jose (Dec 2015)
- “Revisiting Image Stitching for Panoramic Image Construction”
Seoul National University, Korea (Feb 2015)
- “Revisiting Image Stitching for Panoramic Image Construction”
Yonsei University, Korea (Feb 2015)
- “On Image Mosaicing and Layer Separation”
University of Kentucky (July 2014)
- “Interactive Computer Vision”
Yonsei University, Korea (Feb 2014)
- “Interactive Computer Vision”
Inha University, Korea (Feb 2014)
- “Photo-Refinishing: A New In-Camera Imaging Model for RAW-to-sRGB and its Application,” Adobe, USA (Feb 2013)
- “Revisiting Image Mosaicing”
University of Southern California (CVPR AC Workshop) (Feb 2013)
- “Don't Believe Anything You See: Modern Digital Photography and the Camera Imaging Pipeline,” University of California - Irvine (Feb 2013)
- “A New In-Camera Imaging Model or Color Computer Vision and Its Applications”
Seoul National University (ACCV AC Workshop) (Sep 2012)
- “Modeling the Digital Camera Pipeline: From RAW to sRGB and Back”
Georgia Institute of Technology (Jun 2012)
- “Modeling the Digital Camera Pipeline: From RAW to sRGB and Back”
Technical University of Munich (May 2012)
- “Modeling the Digital Camera Pipeline: From RAW to sRGB and Back”
Johannes Kepler University (Mar 2012)
- “Modeling the Digital Camera Pipeline: From RAW to sRGB and Back”
Korean Advanced Institution of Science and Technology (Oct 2011)

- “Modeling the Digital Camera Pipeline: From RAW to sRGB and Back”
HP Labs, California (Aug 2011)
- “Interactive Visualization of Hyperspectral Images of Old Documents”
Australian National University-NICTA, Canberra Australia (Mar 2011)
- “Interactive Visualization of Hyperspectral Images of Old Documents”
Brigham Young University (Oct 2010)
- “Interactive Computer Vision”
University of Adelaide, South Australia (Nov 2009)
- “Research on Interactive Computer Vision”
Zhejiang University (CAD/CAM State Key Lab), Hangzhou, China (Apr 2009)
- “Tools for Scholars Studying Old Documents”
eHeritage Workshop – sponsored by MSRA, Beijing, China (Jul 2008)
- “Shape Palettes”
University of Kentucky, (May 2008)
- “Shape Palettes”
Western Australia University, Perth (Jul 2007)
- “Advances in Building Large Scale Displays”
National University of Singapore, (Mar 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 (Apr 2004)
- “Easily-Constructed Large Scale Displays”
Microsoft Research Asia, Beijing China (Aug 2002)
- “Working-Set Compression: I-Frame Reduction for Encoded Video”
Xi'an Electronic Institute (State Key Lab), Xi'an China (Jun 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 (Jun 2000)

PH.D. STUDENTS
SUPERVISED

- Abdullah Abuolaim (Ph.D. 2021 - York)
Title: “Leveraging Dual-Pixel Sensors for Camera Depth of Field Manipulation”
(Current Position: Camera Engineer – Google)
- Mahmoud Afifi (Ph.D. 2021 - York)
Title: “Image color correction, enhancement, and editing”
CS-Can/Info-Can Distinguished Thesis Award 2021
John Baron Thesis Award 2021
(Current Position: Camera Engineer – Google)
- Abdelrahman Kamel Abdelhamed (Ph.D. 2020 - York)
Title: “Noise Modelling for Smartphone Cameras”
(Current Position: Camera/AI Engineer – Google)
- Hakki Can Karaimer (Ph.D. 2019, York)
Title: “A Study of Colour Rendering in the In-Camera Imaging Pipeline”
(Current Position: Technical Staff – Qualcomm, Canada)
- Mahsa Paknezhad (Ph.D. 2018, NUS)
Title: “Towards Automatic and Consistent Cardiac Analysis”
(Current Position: Data Scientist – BlackRock -Australia)
- Nguyen Ho Man Rang (Ph.D. 2016, NUS)
Title: “Color Mapping for Camera-Based Color Calibration and Color Transfer”
(Current Position: VinAI – Vietnam)
- Cheng Dongliang (Ph.D. 2016, NUS)
Title: “Study of Illumination Estimation and Ground Truth Colors for Color Constancy”
(Current Position: Harbin Institute of Technology – Robotics Institute, China)
- Li Yu (Ph.D. 2015, NUS)
Title: “Separating Layers in Images and Its Applications”
(Current Position: IDEA Labs, China)

- Sharmili Roy Sethy (Ph.D. 2014, NUS)
Title: "Next Generation Reporting and Diagnostic Tools for Healthcare and Biomedical Applications"
(Current Position: Co-Founder/CTO Zoala Pte - Singapore)
- Gao Junhong (Ph.D. 2013, NUS)
Title: "New Strategies for Generating Panoramic Images for Imperfect Image Series"
(Current Position: Illumina, Singapore)
- Lin Haiting (Ph.D. 2013, NUS)
Title: "A New In-Camera Color Imaging Model for Computer Vision"
(Current Position: Adobe, USA)
- Deng Fanbo (Ph.D. 2013, NUS)
Title: "On Using and Improving Gradient Domain Processing for Image Enhancement"
(Current Position: Algorithm Engineer – Kwai Inc., Singapore)
- Lu Zheng (Ph.D. 2011, NUS)
Title: "High-Resolution Imaging for e-Heritage," National University of Singapore, Dec 2011
(Current Position: Assistant Professor – University of Nottingham – Ningbo, China)
- Yu-Wing Tai (Ph.D. 2009, NUS)
Title: "Bayesian Optimization for Image Segmentation, Texture Flow Estimation, and Image Deblurring"
(Current Position: Kwai Inc. – Hong Kong/China)
- Yau-Chat (Desmond) Tsoi (Ph.D. 2009, NTU)
Title: "Geometric and Photometric Distortion Correction for Camera-Imaged Documents: A Unified Approach using Boundary"
(Current Position: Assistant Professor of Engineering Education – HKUST)

MASTER STUDENTS
SUPERVISED

- Beixuan Yang (MSc. 2025 - York)
Current Position: TBD
- Ian MacPherson (MSc. 2023 - York)
Current Position: PhD student, York
- SaiKiran Telda (MSc 2022 - York)
Current Position: PhD student, York
- Ali Maleky (MSc 2022 - York)
Current Position: Ecopia AI, Canada
- Shane Segal (MSc 2020 - York)
Current Position: Mythic AI, USA
- Guo Fangfang (MSc.'14, NUS)
Current Position: Baidu, China
- Liu Shuaicheng (MPhil.'10, NUS)
Current Position: University of Electronic Science and Technology of China
- Fong Heung Wah (M.Phil. 2004, HKUST)
Current Position: Virtuos, Shanghai
- William Wong (M.Sc. 2004, HKUST)
Current Position: Multimedia Designer (Independent)
- Tsang Kin Ting (M.Phil.'04, HKUST)
Current Position: Harmonics Inc., Hong Kong
- Ruiduo (Alan) Yang (M.Phil.'02, HKUST)
Current Position: Google, USA (after PhD from U.SF)

CURRENT
GRADUATE
STUDENTS

- Ian MacPherson (Ph.D. expected 2027 - York)
- Hoang Le (Ph.D. expected 2024 - York)
- SaiKiran (Sai) Tedla (Ph.D. expected 2026 - York)
- Trevor Canham (MSc. expected 2023 - York)
- Hue Nguyen (MSc. expected 2025 - York)

- PAST UG INTERNS
- Raj Ajaykumar, 2022
 - David Ampofo, 2017
 - Michael Stewart, 2017
 - Min Jae Kim, 2017
- CURRENT STAFF
- Khatoll Ghauss (Research Assistant/Lab Manager)
- FORMER STAFF/
VISITORS
- Javier Vazquez-Corral (Visiting Professor)
 - Graham Finlayson (Visiting Professor)
 - Seonghyeon Nam (VISTA Research Fellow)
 - Abdullah Abuolaim (Research Fellow)
 - Mahmoud Afifi (Research Fellow)
 - Seongheong Nam (VISTA Research Fellow)
 - Abhijith Punnappurath (VISTA Research Fellow)
 - David Ampofo (Research Assistant)
 - Cimoan Atkins (Research Assistant/Lab Manager)
 - Nguyen Ho Man Rang (Research Assistant/Research Fellow)
 - Dilip Prasad (Research Fellow)
 - Russell Looi (Research Assistant)
 - Vital Premachandran (Research Fellow)
 - Sharmili Roy (Research Assistant)
 - N. V. Kartheek Medathati (Research Assistant)
 - Seon Joo Kim (Research Fellow)
 - Zhuo Shaojie (Research Assistant)
 - Grani Adiwena Hanasusanto (Research Assistant)
 - Wu Zheng (Research Fellow)
 - Vu Anh Huynh (Research Assistant)
 - Poon-Wei Koot (Research Assistant)
- EXTERNAL PH.D.
EXAMINER
- Param Hanji, Cambridge University (England), Sep 2023
 - Mehran Khodabandeh, Simon Fraser University (Canada), Aug 2023
 - Guoxian Song, Nanyang Technological University (Singapore), Dec 2021
 - Parikshit Vishwas Sakurikar, IIT-Hyderabad (India), Sep 2021
 - Thilan Costa, University of Waterloo (Canada), June 2021
 - Tobis Poetlz, Technical University of Darmstadt (Germany), Sep 2020
 - Charles Poynton, Simon Fraser University (Canada), July 2018
 - Dana Berman, Tel-Aviv University (Israel), July 2018
 - Jianhui Chen, University of British Columbia (Canada), July 2018
 - Saeed Anwar, Australian National University, July 2018
 - Shri. Vijay Rengarajan, IIT-Madras, July 2017
 - Xiao Yao, Hong Kong University of Science and Technology, July 2017
 - Gu Shuhang, Poly University of Hong Kong, June 2017
 - Evgeny Nuger, University of Toronto, March 2017
 - Dev Soumyabrata, Nanyang Technological University (Singapore), Mar 2017
 - Kapila K Pahalawatta, University of Canterbury (New Zealand), Nov 2014
 - Stuart Lynch, University of East Anglia (United Kingdom), May 2014
 - Zohaib Khan, Western Australia University, April 2014
 - Yingying Zhu, University of Queensland (Australia), April 2014
 - Teng Xiao, Technological University (Singapore), June 2013
 - Pawan Harish, IIT-Hyderabad (India), Jan 2013
 - Ben Ward, University of Adelaide (Australia), Oct 2012
 - Cong Phuoc Huynh, Australian National University (ANU), Nov 2011
 - Arnab V. Bhavsar, Indian Institute of Technology (IIT) – Madras, July 2011
 - Steve Oldridge, University of British Columbia (Canada), Jan 2011
 - Yang-Wai Chow, Monash University (Australia) Oct 2006

UNIVERSITY
SERVICE

- York University
 - Member of Strategic Project and Opportunity Review Team – 2017- 19, 2020-21
 - Hiring Committee (Teaching stream) – 2021-2022
 - York Markham Campus Planning Committee – 2020-2022
 - York Senate Sub-Committee on Honorary Degrees and Ceremonials – 2020-current
 - Graduate Admissions Committee – 2017/19/20/23-current
 - Leadership Committee – Canada First Research Excellence Fund – Vision: Science to Applications (VISTA) – August 2016-2022

- National University of Singapore
 - Vice Dean (Corporate Relations), July 2013 – June 2016
 - Area Leader (Media), Nov 2012 – Dec 2014
 - Assistant Dean (Corporate Relations), April 2011 – June 2013
 - Chair - Teaching Evaluation Committee (TEC), August 2011 – June 2016
 - Member – Ad-Hoc Committee on Teaching Improvement – 2010/2011