

Career Objective

Assume a **dynamic** role with **leadership opportunities** in applied research and development in a growth-oriented imaging company with a strong focus on innovation

Areas of Interest

Color Science, color vision and perception, digital color imaging for still images and video, display technologies, novel imaging applications

Education

Doctorate in [Applied Automation and Computer Science](#) (Diplôme Doctorat Automation et Informatique Appliquée), Image and Video Communications Group, Institut de Recherche en Communications et Cybernétique de Nantes (IRCCyN), Polytech' Nantes, **Université de Nantes**, France, September 2008 – August 2011

- PhD Thesis: *Identification and Assignment of Colorimetric Observer Categories and Their Applications in Color and Vision Sciences*
- Funded by the ANRT-CIFRE program for industry-university collaboration, resulted in two patent applications, eight conference papers, one journal paper, two international awards and new overseas university collaborations

Master of Science in [Color Science](#), Munsell Color Science Laboratory (MCSL), Center for Imaging Science, **Rochester Institute of Technology**, Rochester, NY, USA, May 2008

- MS Thesis: *Evaluation of the color image and video processing chain and visual quality management for consumer systems*
- Thesis initiated by a new collaboration between MCSL and Intel Corp, resulted in a patent application and a conference paper

Master of Science in Architectural Engineering with specialization in [Lighting/Electrical](#), **Pennsylvania State University**, USA, May 2005

- MS Thesis: *Proof-of-Concept: CMOS Sensor Based Lighting Control System Integrating High Dynamic Range Imaging and DALI*
- Resulted in multiple publications and a follow-up work at RIT supported by a student research grant, leading to a new collaboration with several lighting control companies and a state grant proposal (not pursued further)

Bachelor of Engineering in [Electrical Engineering](#) with elective in [Illumination Engineering](#), **Jadavpur University**, Kolkata, India, 2000

Resume – Abhijit Sarkar

Professional Experience

November 2011-Present

ColorModules Inc., Stamford, CT

Color Scientist/Director of R&D

- Developing and implementing color imaging workflow for accurate color extraction from digital images; driving all research and development pertinent to releasing a market-viable product; driving full life-cycle of software product development; supervising/co-supervising the recruitment, training, retention, and organization of all technical and development team

September 2008-August 2011

Technicolor Research & Innovation, Rennes, France

PhD Student/Research Engineer

- Envisaged a new display application following a scientific work in color vision, developed a proof-of-concept prototype of a color matching instrument as an enabling factor for a new paradigm in color science and color imaging, initiated collaborative studies with two foreign universities

September 2005-March 2008

Center for Imaging Science, RIT, Rochester, NY

Graduate Assistant

- Conducted research on algorithmic and perceptual aspects of color processing in consumer video processing systems (thesis research sponsored by Intel Corp.)

June 2007-August 2007

Intel Corporation, Chandler, AZ

Summer Intern

- As part of the thesis research, developed a novel algorithm for perceptual enhancement of color and contrast, and conducted subjective experiments to evaluate its performance

June 2006-August 2006

Hewlett-Packard Company, Vancouver, WA

College Intern

- Developed a software tool in Matlab for conducting psychophysical experiments on the image quality of various printing devices and demonstrated software capability by designing and conducting an image quality experiment for the product under development

Patents

- A. Sarkar, L. Blondé, P. Morvan, “Apparatus for the classification of observers according to their visual characteristics”, European Patent Application #10290193.1, filed by Thomson Licensing on April 9, 2011

Resume – Abhijit Sarkar

- A. Sarkar, L. Blondé, J. Stauder, “Method for controlling an image display device to allow the same perception of colours over a large variety of observers”, European Patent Application #10290194.9, filed by Thomson Licensing on April 9, 2010
- A. Sarkar, J.E. Caviedes, and M. Subedar, “Joint enhancement of lightness, color and contrast of images and video”, US Patent Application #20100085487 filed by Intel Corporation on September 30, 2008

Publications

1. A. Sarkar, F. Atrousseau, F. Viénot, P. Le Callet, L. Blondé, “From CIE 2006 Physiological Model to Improved Age-Dependent and Average Colorimetric Observers”, *Journal of the Optical Society of America (JOSA A)*, 28(10): pp. 2033-48, 2011
2. M. Fetudina, A. Sarkar, P. Urban, P. Morvan, “(How) Do Observer Categories Based on Color Matching Functions Affect the Perception of Small Color Differences?”, in *Proceedings of the 19th Color and Imaging Conference*, San Jose, CA, 2011
3. P. Morvan, A. Sarkar, J. Stauder, L. Blondé, J. Kervec, S.K. Hasan, “A handy calibrator for color vision of a human observer”, *IEEE International Conference on Multimedia and Expo (ICME)*, Barcelona, 2011
4. A. Sarkar, L. Blondé, P. Le Callet, F. Atrousseau, J. Stauder, P. Morvan, “Toward Reducing Observer Metamerism in Industrial Applications: Colorimetric Observer Categories and Observer Classification”, in *Proceedings of the 18th Color and Imaging Conference*, San Antonio, TX, 2010
5. A. Sarkar, L. Blondé, P. Le Callet, F. Atrousseau, J. Stauder, P. Morvan, “Modern displays: why we see different colors, and what it means?”, *2nd European Workshop on Visual Information Processing (EUVIP/IEEE)*, Paris, 2010
6. A. Sarkar, L. Blondé, P. Le Callet, F. Atrousseau, J. Stauder, P. Morvan, “A color matching experiment using two displays: design considerations and pilot test results”, in *Proceedings of the CGIV 2010 conference*, Joensuu, Finland, 2010
7. A. Sarkar, L. Blondé, P. Le Callet, F. Atrousseau, J. Stauder, P. Morvan, “How Modern Displays Push Conventional Colorimetry to its Limit”, *Colour in art, science, design, conservation, research, printmaking, digital technologies, textiles (CREATE)*, Gjøvik, Norway, 2010
8. A. Sarkar, L. Blondé, P. Le Callet, F. Atrousseau, J. Stauder, P. Morvan, “Study of Observer Variability on Modern Display Colorimetry: An Analysis of CIE 2006 Model”, in *Proceedings of the 11th Congress of the International Colour Association (AIC) 2009*, Sydney, Australia, 2009
9. A. Sarkar, L. Blondé, P. Le Callet, F. Atrousseau, J. Stauder, P. Morvan, “Study of Observer Variability on Modern Display Colorimetry: Comparison of CIE 2006 Model and 10° Standard Observer”, in *Proceedings of the 11th Congress of the International Colour Association (AIC) 2009*, Sydney, Australia, 2009
10. A. Sarkar, M.D. Fairchild, J.E. Caviedes, M. Subedar, “A Comparative Study of Color and Contrast Enhancement for Still Images and Consumer Video Applications”, in *Proceedings of the 16th Color Imaging Conference*, Portland, OR, November 2008
11. A. Sarkar, M.D. Fairchild and C. Salvaggio, “Integrated Daylight Harvesting and Occupancy Detection Using Digital Imaging”, *Electronic Imaging Conference*, San Jose, CA, USA, 2008
12. A. Sarkar and R. Mistrick, “A Novel Lighting Control System Integrating High Dynamic Range Imaging and DALI”, *Invited Paper, IES Annual Conference*, Phoenix, AZ, USA, 2007
13. A. Sarkar and R. Mistrick, “A Novel Lighting Control System Integrating High Dynamic Range Imaging and DALI”, *Journal of the Illumination Engineering Society* 2(4): 307-322, 2006

Programming Experience

Intensively use Matlab and C/C++ (Visual Studio), conversant with OpenCV library

Awards and Recognitions

- Mitsubishi Electric Research Laboratory (MERL) Best Student Paper Award at the 18th Color and Imaging Conference (CIC), San Antonio, Texas, November 8-12, 2010
- Raymond Davis Scholarship 2010 awarded by the Society for Imaging Science and Technology (IS&T), USA
- Best student project award at the 18th Summer School on Image Processing, Cluj-Napoca, July 2010 for the project *Photographs restoration for scratch removal and date superposition removal*
- Granted by the French government a highly selective, merit-based 3-year (2008-11) residency permit “Carte de Séjour Competences et Talents”, awarded to individuals from various disciplines
- Awarded CIS-Kodak research grant for Innovative Graduate Student Research Proposal by the Center for Imaging Science, RIT in 2006; Project title: *A Proof-Of-Concept Application of Digital Imaging in Lighting Control – Integrating Daylight and Occupancy Sensing.*
- Awarded scholarship and graduate assistantship for graduate studies by the Center for Imaging Science, Rochester Institute of Technology during 2005-07
- Awarded graduate assistantship by Dept of Arch. Engineering, Penn State University during 2003-05

Professional Affiliation & Activities

Student Member: IS&T (Society for Imaging Science and Technology), SID (Society for Information Display).

Accepted topical Reportership position R1-54 (Variability in colour-matching functions) in July, 2011 at Division 1 of the CIE (Commission Internationale de l’Eclairage) based in Vienna, Austria

Contributed to the authoritative Color and Vision Research Laboratory (CVRL: www.cvrl.org) database at the University College, London

References

Available on request