

Curriculum Vitae

S. Tanzima Habib

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I received my B. Tech. degree in 2009 in Computer Science and Engineering, M. Tech. degree in Geoinformatics and Natural Resources Engineering in 2015 from IIT Bombay. During the two years I had taken courses such as Principles of Remote Sensing, Satellite Image Processing and Spectroscopic Analysis. I hold another M. Sc. in Colour in Science and Industry received in 2019. Currently, I have defended my Ph.D. thesis at the Department of Computer Science, NTNU, Norway, where I am a recipient of the prestigious Marie Curie fellowship (ApPEARSE-ITN). My doctoral research focuses on spectral estimation of print data and appearance reproduction for 2.5D printing, with a specific emphasis on developing colour management to handle spectral data and material appearance.

Employment History

- 2023–2023 📌 **Teaching Assistant.** Norwegian University of Science and Technology., Norway
- 2018– 2019 📌 **Research Assistant.** Norwegian University of Science and Technology., Norway
- 2015 – 2017 📌 **Senior Software Engineer.** Persistent Systems Ltd., India
- 2013– 2015 📌 **Teaching Assistant.** Indian Institute of Technology Bombay., India
- 2009– 2011 📌 **Assistant Systems Engineer.** Tata Consultancy Services Ltd., India

Education

- 2019 – 2023 📌 **Ph.D. Computer Science, Norwegian University of Science and Technology (NTNU), Norway.**
Thesis title: *Image Appearance Reproduction Framework Using 2.5D Printing Techniques. (Defended: September 2023)*
Core Courses: Colour Imaging, Colour Science and Printing Technologies.
- 2017 – 2019 📌 **M.Sc. Colour in Science and Industry, NTNU, Norway.**
Thesis title: *Testing of ICC profile re-encoding based on printmode parameters.*
Core Courses: Advanced Colour Image Processing, Fundamentals of Spectral Science and Image Acquisition and Reproduction

Education (continued)

- 2013 – 2015  **M.Tech. Geoinformatics and Natural Resources Engineering, Indian Institute of Technology Bombay (IIT-B), India.**
Thesis title: *Robust Water Marking of Satellite Imagery.*
Core Courses: Principles of Remote Sensing, Satellite Image Processing, Principles of Geographic Information Systems and Spectroscopic Analysis of Planetary Materials
Course Projects: (1) Possibilistic Fuzzy C means for Clustering of Satellite Images
(2) Generation of Service Area Map as a collection of polygons for road network and facilities.
- 2005 – 2009  **B.Tech. Computer Science & Electronics Engineering, Sikkim Manipal Institute of Technology (SMIT), India.**
Thesis title: *Particle Swarm Optimization and Image Segmentation. (The thesis work was part of the internship in Machine Intelligence Unit, Indian Statistical Institute (ISI), Calcutta)*
Core Courses: Computer Architecture, Computer Graphics, Automata Theory, Algorithm Design, Programming Languages.

Research Publications

Journal Articles

- 1 T. Habib, P. Green, and P. Nussbaum, "Spectral Estimation: Its Behaviour as a SAT and Implementation in Colour Management (Accepted)," *Journal of Imaging Science and Technology*, 2023.
- 2 T. Habib, P. Green, and P. Nussbaum, "2.5D Printing: An Appearance Reproduction Framework for Printed 3D Surfaces (Accepted)," *Journal of Imaging Science and Technology*, 2023.

Conference Proceedings

- 1 T. Habib, P. Green, and P. Nussbaum, "A weighted goodness-of-fit metric for comparison of spectra," in *Sensing Colour, Proceedings of the International Colour Association (AIC) Conference 2022*, International Colour Association, 2022, pp. 397–404.
- 2 T. Habib, P. Green, and P. Nussbaum, "Estimation of BRDF Measurements for Printed Colour Samples," in *Color and Imaging Conference*, vol. 29, Society for Imaging Science and Technology, 2021, pp. 123–128.
- 3 T. Habib, P. Green, and P. Nussbaum, "BRDF rendering by interpolation of optimised model parameters," in *Color and Imaging Conference*, Society for Imaging Science and Technology, vol. 28, 2020, pp. 162–168.
- 4 T. Habib, P. Green, and A. Sole, "Implementing directional reflectance in a colour managed workflow," in *London Imaging Meeting*, Society for Imaging Science and Technology, vol. 1, 2020, pp. 119–123.
- 5 T. Habib, P. Green, and P. Nussbaum, "Spectral reproduction: drivers, use cases and workflow," vol. 32, Society for Imaging Science and Technology, 2020, pp. 1–6.
- 6 T. Habib and M. Pedersen, "Short-term memory effects in subjective image quality assessment of natural images," in *2019 8th European Workshop on Visual Information Processing (EUVIP)*, IEEE, 2019, pp. 70–75.
- 7 T. Habib and P. Green, "Spectral estimation of chromatically adapted corresponding colors," in *Computational Color Imaging: 7th International Workshop, CCIW 2019, Chiba, Japan, March 27–29, 2019, Proceedings 7*, Springer, 2019, pp. 102–117.
- 8 P. Green and T. Habib, "Chromatic adaptation in colour management," in *International Workshop on Computational Color Imaging*, Springer, 2019, pp. 134–144.

- 9 S. M. Somani, K. M. Buddhiraju, D. V. Choksi, P. Venkatachalam, and T. Habib, "Robust watermarking of satellite images using texture-based lsb-dwt method," in *Multispectral, Hyperspectral, and Ultraspectral Remote Sensing Technology, Techniques and Applications VI*, SPIE, vol. 9880, 2016, pp. 438–446.

Book Chapters

- 1 T. Habib, "Colour Management of Material Appearance," in *Colour Engineering: Fundamentals and Applications*, P. Green, Ed., John Wiley & Sons, 2023.

Skills

Language	• Proficient in reading, writing, and verbal communication in English • Proficient in reading, writing, and verbal communication in Assamese • Proficient in reading, writing, and verbal communication in Hindi • Basic in Norwegian (A1 level) • Very Basic in Mandarin
Coding	• C, C++, Python, Unix, MATLAB, R, MySQL, HTML, CSS, JavaScript
Software	• ERDAS Imagine, ArcGIS, 3ds Max.

Miscellaneous Experience

2023 - Present	• Participation in CIE Technical Committee for "Method for calculating CIE tristimulus values".
2019 - Present	• Participation as an Expert to ISO/TC 130/JWG 7 as a part of the International Color Consortium (ICC).
	• Delivered lectures and project guidance to master students.
2023	• Authored a chapter on "Colour Management of Material Appearance", in the book "Fundamentals and Applications of Colour Engineering".
2019-2023	• Engaged in industrial collaborations such as FOGRA, Germany and COVISON Lab, Italy.
2020	• Conducted 3 workshops in ICC DevCon 2020 event.