

Nithin C Babu

LinkedIn: [Profile](#)
Google Scholar: [Profile](#)
Orcid ID: [0000-0002-1739-7978](#)
Github: [github.com/nithincbabu7](#)

Email : nithinc@iisc.ac.in
Mobile : +91-9847253750

RESEARCH INTERESTS

- Image and Video Processing
- Visual Quality Assessment
- Deep Learning

EDUCATION

- **Indian Institute of Science, Bangalore** Bangalore, Karnataka
Ph. D. in Electrical Communication Engineering *October 2020 - Present*
 - Research Advisor : Dr. Rajiv Soundararajan
 - Research Topic : Visual Quality Assessment of User-Generated and AI-Generated Content
 - CGPA : 9.0/10
- **Government Engineering College, Thrissur** Thrissur, Kerala
Bachelor of Technology in Electronics and Communication Engineering *Aug 2015 - July 2019*
 - Project Advisor : Prof. Anish Babu K K
 - CGPA : 8.03/10
- **Kendriya Vidyalaya Thrissur** Thrissur, Kerala
CBSE Senior Secondary Examination *2015*
 - Stream : Computer Science
 - Percentage : 94.4%
- **Kendriya Vidyalaya Thrissur** Thrissur, Kerala
CBSE Secondary Examination; CGPA: 10/10 *2013*
 - CGPA : 10/10

COURSE WORK

- **Mathematics:** Random Process, Matrix Theory, Linear and Non-Linear Optimization
- **Signal Processing:** Detection and Estimation Theory, Digital Image Processing, Advanced Image Processing, Computer Vision, Pattern Recognition and Neural Networks, Adaptive Signal Processing

SKILLS SUMMARY

- **Programming:** Python, MATLAB, C++
- **Platforms:** Windows, Linux
- **Softwares:** L^AT_EX

INTERNSHIPS AND TRAINING

- **Elvicto Technologies Private Limited, Technopark, Trivandrum** Trivandrum, Kerala
Project Intern *July 2018*
 - **Smart Sensor Design based on LoRaWAN Technology:** Project Intern for one month in designing and developing Smart Sensors based on IoT and LoRaWAN Technologies for Smart City developments.
- **National Institute of Electronics and Information Technology, Calicut** Calicut, Kerala
Intern *June 2017 - July 2017*
 - **Embedded System Design using Raspberry Pi Internship:** Completed a one-week internship in Embedded System Design and IoT on Raspberry Pi.
- **Bharat Sanchar Nigam Limited, Thrissur** Thrissur, Kerala
Industrial Trainee *June 2016 - July 2016*
 - **Telecom Technology Industrial Training:** Completed a two-week industrial training on 'Telecom Technology'.

ACADEMIC EXPERIENCE

- **Indian Institute of Science:**

- **Main teaching assistant:** E9 241 - Digital Image Processing

August 2022 - December 2022

- * Involved in setting up and evaluating assignments.
- * Conducted tutorials on Python / MATLAB coding.

- **Main teaching assistant:** E9 241 - Digital Image Processing

August 2023 - December 2023

- * Involved in setting up and evaluating assignments.
- * Conducted a special Python / MATLAB vectorization and broadcasting tutorial.

RESEARCH PUBLICATIONS

- **Conference:**

- Nithin C. Babu, Vignesh Kannan, and Rajiv Soundararajan. No reference opinion unaware quality assessment of authentically distorted images. In *Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)*, pages 2459–2468, January 2023 ([paper](#)) ([project page](#)) ([video](#)) ([poster](#))

- **Journal:**

- Vignesh Kannan, Sameer Malik, Nithin C. Babu, and Rajiv Soundararajan. Quality assessment of low-light restored images: A subjective study and an unsupervised model. *IEEE Access*, 11:68216–68230, July 2023 ([paper](#)) ([project page](#))

ACADEMIC PROJECTS

- **Adversarial attacks on Perceptual Quality Metrics trained on Authentically Distorted Images and Defense strategies:**

June 2021

- **Advanced Image Processing Course Project:** Analyzed the effect of adversarial attacks on deep-feature based perceptual quality metrics and employed adversarial training to improve performance the of deep-features.

- **Learning to See in the Dark:**

January 2021

- **Digital Image Processing Course Project:** Analysis of the paper, 'Learning to See in the Dark' by *Chen et al.* (CVPR 2018). Used the implementation to learn the basics of deep learning and its implementation in Python using Tensorflow. Analyzed the trained network and solved a limitation of the existing paper.

- **Automated Locker Management System for Laundry Services:**

2018 - 19

- **B.Tech. final year Project:** Created a fully automated, scalable locker system for Black Swan Dry Cleaners company. Here, the customer can drop off his/her garments in the locker and pick them up when finished, being notified by an SMS to his/her mobile phone.

HONORS AND AWARDS

- Recipient of Prime Minister Scholarship Scheme 2015-'19 for all four years of B.Tech.
- 0.1% Merit in Mathematics in CBSE Senior Secondary Examination

TEST SCORES

- Graduate Aptitude Test in Engineering (GATE) 2020 - Score 933/100 (AIR 12 in ECE)

PEER REVIEWS

- **2024:**

- Computer Vision and Pattern Recognition (CVPR) : 3