

# Nithin C Babu

Homepage: [nithincbabu7.github.io](https://nithincbabu7.github.io)  
Github: [nithincbabu7](https://github.com/nithincbabu7)

Email : [nithinc@iisc.ac.in](mailto:nithinc@iisc.ac.in)  
LinkedIn: [linkedin.com/in/nithin-c-babu](https://linkedin.com/in/nithin-c-babu)

## RESEARCH INTERESTS

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- **Visual Quality Assessment with Deep Learning:** Machine learning methods for assessing user/AI-generated content.

## EDUCATION

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- **Indian Institute of Science, Bangalore** Bangalore, Karnataka  
Ph. D. in Electrical Communication Engineering | CGPA : 9.0/10 October 2020 - Present
  - Research Advisor : Dr. Rajiv Soundararajan
- **Government Engineering College, Thrissur** Thrissur, Kerala  
Bachelor of Technology in Electronics and Communication Engineering | CGPA : 8.03/10 Aug 2015 - July 2019
- **Kendriya Vidyalaya Thrissur** Thrissur, Kerala  
CBSE Senior Secondary Examination | Computer Science | Percentage : 94.4% 2015

## RESEARCH PUBLICATIONS

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- Sanjot Sagar Totade, Nithin C Babu, Shika Rao, and Rajiv Soundararajan. Internal embeddings of multi-modal llms as generalizable representations for image quality assessment. In *Proceedings of the Fifteenth Indian Conference on Computer Vision Graphics and Image Processing (ICVGIP)*, January 2025
- 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
- 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

## INTERNSHIPS AND TRAINING

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- **Adobe India, Bangalore** May 2024 - August 2024
  - Research Intern for three months. Focused on evaluating the quality of AI-generated videos through subjective experiments and developing quality metrics that correlate well with human perception.
- **Elvicto Technologies Private Limited, Technopark, Trivandrum** July 2018
  - Project Intern for one month in designing and developing Smart Sensors based on IoT and LoRaWAN Technologies for Smart City developments.

## ACADEMIC PROJECTS

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- **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.

## TECHNICAL SKILLS

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- **Programming Languages:** Python, MATLAB, C++
- **Deep Learning and Data Science:** PyTorch, NumPy, Pandas
- **Operating Systems:** Windows, Linux

## HONORS AND AWARDS

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- 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