

# Anil Kumar Vadathya

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I am a research engineer with >5 yrs experience in machine learning, interested in solving challenging problems in healthcare to create a measurable impact.

## WORK EXPERIENCE

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### Rice University

Nov. 2018 – Present

Research Engineer, [Digital Health Initiative](#), ECE

Houston, TX

Visiting Engineer, CNRC, Baylor College of Medicine

- As a lead engineer, I led machine learning and computer vision efforts in developing technology, [FLASH-TV](#), for objectively measuring screentime (TV, mobile use)
  - Collaborated across a diverse team of pediatricians, behavioral researchers and engineers
  - FLASH-TV can track children's TV viewing with **>85% accuracy** in real-time
- Built a gaze tracking tool using state-of-the-art **face detection, recognition and gaze estimation** methods.
  - Developed training techniques to bridge the gap between public datasets and FLASH requirements
  - Runs **real-time** on edge devices, deleting images after analysis, **preserving privacy**
- Developed validation, data collection protocols under IRB and HIPPA guidelines, managed large scale HD video labeling database, and an inventory of state-of-the-art Nvidia edge devices (100k USD)
- FLASH-TV efforts (2018-2021) led to an ongoing [NIH PO1 grant](#) (2022-2027)

## EDUCATION

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### Indian Institute of Technology (IIT) Madras

June 2018

MS in Electrical Engineering

Chennai, India

- Masters thesis on “generative models for image restoration” won Qualcomm Innovation Fellowship-India

### Rajiv Gandhi University of Knowledge Technologies

May 2015

B. Tech in Electronics and Communications Engineering

Basar, India

## RELEVANT PUBLICATIONS

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- **Anil Vadathya et al.** “FLASH-TV a machine learning pipeline to passively measure children's TV viewing: validation studies of the system,” under review at *Nature scientific reports*, 2024
- **Anil Vadathya et al.** “An Objective System for Quantitative Assessment of Television Viewing Among Children (Family Level Assessment of Screen Use in the Home-Television): System Development Study,” *JMIR Pediatric and Parenting*, 2022
- **Anil Vadathya**, Sharath Girish, Kaushik Mitra, “A unified learning-based framework for light field reconstruction from coded projections,” *IEEE Transactions on Computational Imaging*, 2019
- Akshat Dave, **Anil Vadathya.**, Ramana Subramanyam, Rahul Baburajan, Kaushik Mitra, “Solving Inverse Computational Imaging Problems using Deep Pixel-level Prior,” *IEEE Transactions on Computational Imaging*, 2018

## PROFESSIONAL ACTIVITIES

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- Reviewer for journals - IEEE TPAMI, IEEE TCI, Optics Express, IJCV
- Reviewer for conferences - CVPR, ECCV, WACV, ICIP, ICHI, Face and Gesture

## SKILLS

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Machine learning, computer vision, deep neural networks, image analysis, scikit-learn, numpy; Training, optimizing neural networks; Python, PyTorch, Tensorflow, MXNet, C, BASH, Matlab; GitHub, Docker, Linux;