
EDUCATION

- University of California, Riverside** Riverside, CA
 • *Doctor of Philosophy in Electrical and Computer Engineering* *Sep. 2018 – Exp. Jun. 2023*
 Advisor: Dr. Bir Bhanu
- University of California, Riverside** Riverside, CA
 • *Master of Science in Electrical Engineering* *Sep. 2016 – Mar. 2018*
 Advisor: Dr. Hyoseung Kim
 Thesis: Statistical Analysis of WCET Estimation on DNNs
- Visvesvaraya Technological University** Bangalore, India
 • *Bachelor of Engineering in Electronics and Communication Engineering* *Sep. 2012 – Jul. 2016*

RESEARCH INTERESTS

Computer Vision **Deep Learning** **Graph Networks** **Facial Micro-Expressions**
Recommendation Systems

EMPLOYMENT

- University of California, Riverside (UCR)** Riverside, CA
 • *Graduate Student Researcher* *Sep. 2018 - Present*
 - **Classification of Facial Micro-Expressions using Graph and Convolutional Networks:** Research on video analysis such as detection, classification and segmentation of facial micro-expressions using CNN and GNN based on RGB-D videos.
- University of California, Riverside (UCR)** Riverside, CA
 • *Graduate Student Researcher* *July. 2018 - Sep 2018*
 - **Analysis of Lidar and Depth Cameras:** Research on other mediums of videos such as Lidar and Depth videos.
- University of California, Riverside (UCR)** Riverside, CA
 • *Graduate Student Researcher* *Mar. 2017 - Mar 2018*
 - **Statistical Analysis of WCET estimation on DNN:** Estimating the worst case execution time of various DNNs and the factors affecting the training and inference time. Worked on Lidar and IMU to retrieve the data for autonomous car.
- Dayananda Sagar College of Engineering** Bangalore, India
 • *Research Assistant* *Jul. 2014 - Jul. 2016*
 - **Video Object Detection and Fingerprint recognition:** Worked on detection of objects in a video by subtraction of background from the foreground using optical flow and gaussian mixture models. Implemented a system to give access to patient medical reports using fingerprint.

PUBLICATIONS

- A.J.R. Kumar** and B. Bhanu, “*Three Stream Graph Attention Network using Dynamic Patch Selection for the classification of micro-expressions.* (Accepted **CVPR** ABAW Workshop 2022)
- A.J.R. Kumar** and B. Bhanu, “*Micro-expression classification based on landmark relations with graph attention convolutional network,*” IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**) Workshop on Analysis and Modeling of Faces and Gesture, Nashville, TN, 2021
- A.J.R. Kumar**, B. Bhanu, C. Casey, S.C. Cheung and A. Seitz “*Depth videos for the classification of micro-expressions,*” International Conference on Pattern Recognition (**ICPR**), Milan, Italy, 2021.
- A.J.R. Kumar**, R. Theagarajan, O. Peraza and B. Bhanu, “*Classification of facial micro-expressions using motion magnified emotion avatar images,*” IEEE Workshop on Face and Gesture Analysis for Health Informatics, in conjunction with IEEE **CVPR** Conference, Long Beach, CA, 2019.
- A.J.R. Kumar** and B. Bhanu, “*MaskGAT: Masked Graph Attention Network for the Classification of Facial Micro-Expressions.* (Under Submission IEEE TAC Journal 2022)

TEACHING EXPERIENCE

- Computer Vision.
- Electrical Circuit Analysis I.
- Sensing and Actuation for Embedded Systems
- Electronic Circuits.
- Computational Learning.

PROGRAMMING LANGUAGES

C, CUDA C, Matlab, Python, L^AT_EX

STUDENT ADVISING

Omar Peraza

Qifeng Zhao

AWARDS

Suresh Kumar Memorial Fund Scholarship Award

2020, 2021

UCR Graduate Dean's Fellowship

2018, 2019

PROFESSIONAL ACTIVITIES

External Reviewer

International Conference on Pattern Recognition (ICPR)

Conference on Computer Vision and Pattern Recognition (CVPR) (External Reviewer and Program Committee)

IEEE Transactions on Human-Machine Systems (THMS)

COURSES COMPLETED AT UCR

Computer Architecture	GPU Architecture & Parallel Programming	Operating Systems	Data
Mining	Real Time Systems	Cyber Security Systems	Stochastic Processes
Radio Frequency	Integrated Circuit Design	Network Routing	Digital Signal Processing
			VLSI Design