**Ankith Jain Rakesh Kumar**
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## 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, "*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, June 19, 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, January 10-15, 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, June 17, 2019.

**A.J.R. Kumar** and B. Bhanu, "*MaskGAT: Masked Graph Attention Convolutional Network for the Classification of Facial Micro-Expressions.* **(Under Submission IEEE TAC Journal 2022)**

**A.J.R. Kumar** and B. Bhanu, "*Facial Micro-expression classification based on Graph Attention Networks.* **(Under Submission CVPR Workshop 2022)**

## Teaching Experience

- **C**omputer Vision.
- **E**lectrical Circuit Analysis I.
- **S**ensing and Actuation for Embedded Systems
- **E**lectronic Circuits.
- **C**omputational Learning.

## Programming Languages

C, CUDA C, Matlab, Python, LaTeX

## 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 VLSI Design Radio Frequency Integrated Circuit Design Network Routing Digital Signal Processing