Saandeep Aathreya

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RESEARCH INTEREST

Affective Computing, Machine Learning, Deep learning, Computer Vision

EDUCATION

PhD in Computer Science — Tampa, FL | Dec 2023
University of South Florida
Advised by Prof. Shaun Canavan

Bachelor of Science in Computer Science — Mysore, India | July 2015
Visvesvaraya Technological University

PUBLICATIONS

- **Task-based Classification of Reflective Thinking Using Mixture of Classifiers** — ACII | 2021
  S. Aathreya, L. Jivnani, S. Srivastava, S. Hinduja, S. Canavan
- **Recognizing Emotion in the Wild using Multimodal Data** — ICMI | 2020
  S. Srivastava, S. Aathreya, S. Hinduja, S. Jannat, H. Elhamdadi, S. Canavan
- **Three-level Training of Multi-Head Architecture for Pain Detection** — FG | 2019
  S. Aathreya, S. Hinduja, S. Canavan

WORK EXPERIENCE

UNIVERSITY OF SOUTH FLORIDA | Research Assistant (RA) — Tampa, FL | July 2020 - Present

- Involved in development of a robust **DeepFake Detection** technique accompanied by creation of **DeepFake dataset** using SOTA methods.
- Analysed and modelled facial expressions using **Vision-based** techniques and implemented **supervised** learning using deep learning methods.

INFOSYS | Technology Analyst — Mysore, India | Sep 2015 – July 2019

- Acting lead for a team involved in development and maintenance of 40+ mortgage business applications.
- Renewal of tech stack of legacy systems for 20+ applications to **.NET MVC** and **entity framework**.
- Developed enterprise level applications from scratch under **Agile** methodology.

PROJECTS

AUTOMATIC OPENFACE EXTRACTOR — Python, Docker
Utilized the openface docker tool to extract useful features from a face image. This was fed to **machine learning classifiers** for downstream analysis.

AUTOMATIC POISSON BLENDING — Python, PyTorch
Performs Poisson blending on images for fake object creation. The pipeline included image segmentation using Detectron2.

REALNVP — Python, PyTorch, shell
Re-implementation of RealNVP **generative** algorithm in PyTorch framework to generate realisitic fake images on multiple GPU nodes.

SKILLS

Languages: Python, C++, C#, C, SQL
Libraries/Frameworks: PyTorch, TensorFlow, Pandas, Scikit-learn, Matplotlib, UMAP
Others: Git, LaTeX, VSCode, Linux, Rally, Distributed Computing in PyTorch