Curriculum Vitae

ANIRUDH THATIPELLI

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RESEARCH INTERESTS

Computer Vision, Machine Learning, Action Recognition, Few Shot Learning, Graph Deep Learning

EDUCATION

Shiv Nadar University, Noida, India 2015-2019
Bachelor of Technology, Computer Science and Engineering CGPA: 8.16/10
Minor in Mathematics

RESEARCH EXPERIENCE

Spatio-temporal Relation Modeling for Few-shot Action Recognition August 2021 - Present
Research Intern, Mohamed bin Zayed University of Artificial Intelligence, UAE

- Proposed a novel spatio-temporal enrichment module, **STRM** for the problem of few-shot action recognition,
- Aggregate spatial and temporal contexts with dedicated local patch-level and global frame-level enrichment modules.
- Achieve an absolute gain of **3.5 %** over previous SOTA on SSv2 dataset.
- Paper accepted at **Conference on Computer Vision and Pattern Recognition (CVPR), 2022** [**Acceptance rate - 25 %**]

Skeleton Action Recognition In The Wild May 2019 - June 2021
Research Assistant, International Institute of Information Technology, Hyderabad

- Implemented Deep Learning Models to learn skeletal human actions in outdoor, real-world settings.
- Developed a protocol for benchmarking state-of-the-art skeleton action recognition models.
- Curated datasets and presented baselines to include **Out-Of-context actions** and **Charades-based actions**.
- Paper accepted at **International Journal of Computer Vision (IJCV), 2021**.
- Designed a full-body skeleton action recognition dataset, including fine-grained skeleton joints.
- **NTU60-X: Towards Skeleton-based Recognition of Subtle Human Actions.**", **Indian Conference on Computer Vision, Graphics and Image Processing (ICVGIP 2021) [ORAL - 9%]**

Macular Alignment In Retinal OCT Scans May - July 2018
Research Intern, International Institute of Information Technology, Hyderabad

- Collated and preprocessed a dataset of over **500** retinal OCT scans.
- Developed a tool to automate the process of annotation of the macular region in the OCT scan.
- Aligned the macular region in retinal OCT scans and OCT-OD centric scans using Matlab.

Machine Learning Classification On Imbalanced Datasets June - Aug 2017
Summer Research Intern, Shiv Nadar University

- Implemented the **MDOBoost** algorithm for multi-class imbalanced problems in Machine Learning.
- Using Mahalanobis distance to boost minority class samples.

TECHNICAL PROJECTS

PetFinder.my Adoption Prediction Kaggle Competition

- Combined textual attributes with the visual features to predict the speed of a pet being adopted.
- Leveraged **XGBoost** model to predict adoption speed.
- Ranked **125th** out of **2023** teams and awarded the **Bronze** medal.

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Freesound Audio Tagging Kaggle competition

- Implemented a **deep CNN with Squeeze Excitation block** to classify audio data across **80 categories**.
- Ranked **237th** out of **880** teams.

Marketing Channel Attribution

- Collected and analyzed a dataset of **700** samples on customer behavior to pinpoint marketing channels that resulted in a purchase.
- Optimized SQL queries to achieve **28%** faster retrieval.

Course Allocation Software

- Designed a course allocation software using Java and MySQL tailored to each student's requirements and performed database normalization.

TECHNICAL SKILLS

Software and Frameworks	Python, C++, Java, PyTorch, Keras, Matlab, Tensorflow
Tools	Git, MySQL, Bash scripting, MeshLab, Latex

WORK EXPERIENCE

Dell Technologies Jan - Apr 2019
Software Development Engineering Intern Hyderabad
Implementation of MES (Manufacturing Execution System) in Dell Factories

- Developed and verified Dell's Manufacturing Execution system to improve the tracking of finished goods in factories.
- Implemented Softlink Functionality to improve factory space management.
- Developed BreakGlass Server Access Tool to automate server access check for users in **1/6th** the original time.
- Developed UI of a Bartender application to better manage movement of goods along different lines in the factory.

VOLUNTEER EXPERIENCE

- **The British Machine Vision Conference (BMVC)** 2021 Reviewer.
- Designed and taught the Arts subject at **Prathmik Vidyalya**, a rural school on the outskirts of New Delhi.
- Volunteered at **Saviors**, a Blood Donation NGO, and registered **150+** emergency blood-donation members.
- Designed and maintained a database of academic and interview resources for students of Shiv Nadar University.

AWARDS AND ACHIEVEMENTS

- **Winner of the Dell Dorm Room Hackathon**: Trained a model to classify between damaged and undamaged factory boxes, and proposed a spring system to mitigate the damage to goods during transit between factories.
- **Dean's Merit List Holder**: Awarded for outstanding performance in academics for the final semester (**Top 1 percentile**)
- **India Hacks IOT Competition**: Among the **top 40 teams** to be selected from over **7000** teams for IOT-based India Hacks competition. Created a light sensor to detect whether headlights from cars are **over-dazzling** or not.
- **Undergraduate scholarship**: Received a scholarship of **8040$** for undergraduate admission.