Abrar Majeedi

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Education

University of Wisconsin-Madison Madison, WI
PhD in Biomedical Data Science *May. 2021 – May 2025*
- Working on computer vision, deep learning, and their applications in healthcare

University of Wisconsin-Madison Madison, WI
MS in Biomedical Data Science *Aug. 2019 – May 2021*
- GPA 3.935/4.00

National Institute of Technology Srinagar, India
B.Tech in Computer Science and Engineering *Aug. 2015 – May 2019*
- Department Rank 1
- Governor's Gold Medal for Academic Excellence

Research Experience

Graduate Research Assistant in Computer Vision Feb 2020 – Present
Prof. Yin Li, University of Wisconsin-Madison
- Working on video machine learning problems in healthcare, focused on video understanding and quality assessment.

Applied Scientist Intern June 2023 – Aug 2023
Amazon Inc., San Francisco, CA
- Worked on accurate product image generation in the Amazon Gen AI team.
- Proposed and implemented a novel method which demonstrated better performance than existing baselines.

Applied Scientist Intern June 2022 – Aug 2022
Microsoft, Redmond, WA
- Designed and coded a deep learning based Full-reference video quality assessment tool which achieves state-of-the-art performance at evaluating ML Video codecs.
- Assisted in building the video dataset using multiple conventional and ML Video codecs, which will be made open source to advance the field of ML video codecs.
- Evaluated the performance of all the baselines on our dataset.

Computer Vision & Deep Learning Research Intern Dec. 2017 – Feb 2018
Indian Institute of Science
- Achieved State-of-the-art for Disguised Facial Recognition (DFR) using facial key-point detection.
- Wrote the image annotation software in Python.

Publications

1. "Deep Learning to Quantify Care Manipulation Activities in Neonatal Intensive Care Units", (accepted at Nature Partner Journals (npj) - Digital Medicine).
2. "RICA^2: Rubric-Informed, Calibrated Assessment of Actions", (under review at ECCV 2024).
3. "Full Reference Video Quality Assessment for Machine Learning-Based Video Codecs" (arXiv:2309.00769).
4. "Detecting Egocentric Actions with ActionFormer", CVPR 2022 workshop (EPIC@CVPR2022).
5. "A Supervised Learning Methodology for Real-Time Disguised Face Recognition in the Wild", ACM ICRCV 2018.
6. "Disguised Facial Recognition Using Neural Networks," 2018 IEEE 3rd International Conference on Signal and Image Processing (ICSIP), Shenzhen, China, 2018.

Industry Experience

Graduate ML Intern May 2020 – Jun 2020
Dell Technologies Inc., Seattle, WA

- Implemented and optimized the state of the art for Visual Question Answering as a production pipeline on Kubeflow.

Data Science Intern Jun 2019 – Aug 2019
Fourkites Inc, India

- Built the 'Recommended Departure' tool in the Advanced Insights suite of Fourkites ETA.
- Performed extensive EDA on ETA prediction to predict accurate Recommended departure.

Data Science Intern Dec 2018 – Feb 2019
Fourkites Inc, India

- Worked on prediction of port congestion and Ocean ETA.
- Built real-time performance evaluation software for Dynamic ETA.
- Received a letter of appreciation rating my performance as "Greatly exceeds expectations".

Teaching Experience, Leadership and Activities

- Graduate TA for Learning Based Methods for Computer Vision (CS 771), Introductory Applied Statistics (STAT 371)(Fall 2021) and Intro to Cryptography (CS 435) at UW Madison (Spring, Fall 2020).
- Member of Statistics Graduate Student Association(SGSA UW Madison).
- TA for undergraduate courses : Operating Systems and Artificial Intelligence.

Technical Skills

Languages: Python, R
Libraries: PyTorch, Numpy