Abrar Majeedi

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Education

University of Wisconsin-Madison — Madison, WI
PhD in Deep Learning — *Expected Graduation : Dec 2025*
- Working on multimodal deep learning

University of Wisconsin-Madison — Madison, WI
MS in Biomedical Data Science — *Aug. 2019 – May 2021*
- GPA 3.94/4.00

National Institute of Technology — Srinagar, India
B.Tech in Computer Science and Engineering — *Aug. 2015 – May 2019*
- Department Rank 1

Research Experience

Graduate Research Assistant in Deep Learning — Feb 2020 – Present
Prof. Yin Li, University of Wisconsin-Madison
- Working on multimodal deep learning
- Areas of Interest: Sequential data, Large Language Models (LLMs), Vision Language Models, Video understanding, Generative AI

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 a large scale video dataset using multiple conventional and 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. *Abrar Majeedi*, Viswanatha Reddy, Satya Sai Srinath, Yin Li. **RICA^2: Rubric-Informed, Calibrated Assessment of Actions**. European Conference on Computer Vision (ECCV) 2024.
2. *Abrar Majeedi*, Patrick Peebles, Ryan McAdams, Yin Li. **Glottic Opening Detection using Deep Learning for Neonatal Intubation with Video Laryngoscopy**. Nature - Journal of Perinatology 2024.
3. *Abrar Majeedi*, Ravneet Kour, Ryan McAdams, Shubham Gupta, Harpreet Singh, Yin Li. **Deep Learning to Quantify Care Manipulation Activities in Neonatal Intensive Care Units.** Nature Partner Journals (npj) - Digital Medicine 2024.
4. *Abrar Majeedi*, Babak Naderi, Yasaman Hosseinkashi, Juhee Cho, Ruben Alvarez Martinez, Ross Cutler. **Full Reference Video Quality Assessment for Machine Learning-Based Video Codecs**. (arXiv:2309.00769).
5. Chenlin Zhang, Lin Sui, *Abrar Majeedi*, Viswantha Reddy, Yin Li. **Detecting Egocentric Actions with ActionFormer.** (EPIC@CVPR2022).
6. Saumya Kumaar, Ravi Viswanath, SN Omkar, *Abrar Majeedi*, Abhinandan Dogra. **Disguised Facial Recognition Using Neural Networks**. IEEE ICSIP 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".

Honors and Awards

- Award for Best Innovation in Neonatology – SHINE (Symposium on Health Innovation and Neonatal Excellence) Conference, Orlando, Florida, January 2025.
- Best Poster Award – NSF CHORUS Poster Competition, Purdue University, 2024.
- Governor's Gold Medal for Academic Excellence, 2019.

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
Methods: PyTorch, Computer Vision, Video Understanding, Large Language Models, Sequential Modeling, Generative AI, Timeseries Forecasting