Abrar Majeedi

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Education

University of Wisconsin-Madison — Madison, WI
PhD in Deep Learning — *May. 2021 – Dec 2025*
- Working on multimodal deep learning and computer vision

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 Deep Learning — Feb 2020 – Present
Advised by Prof. Yin Li, University of Wisconsin-Madison
- Working on multimodal deep learning
- Research focus: Deep learning, Vision Language Models, Video Understanding, Sequential Data, Biomedical Applications

Applied Scientist Intern — May 2025 – Aug 2025
Amazon Inc., Seattle, WA
- Worked on Multimodal Large Language Models (LLMs, VLMs, MLLMs).

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, Nada Elkordi, Yin Li. **LETS Forecast: Learning Embedology for Timeseries Forecasting**. International Conference on Machine Learning (ICML) 2025.
2. Sai Prasanna Reddy, *Abrar Majeedi*, Viswanatha Gajjala et al. **Neural: Agentic Prompt Optimization for Evidence-Grounded Clinical Question Answering.** BioNLP @ ACL 2025.
3. *Abrar Majeedi*, P. Peebles, Y. Li, Ryan McAdams. **Deep learning to assess laryngoscope insertion depth during neonatal intubation with video laryngoscopy**. Nature - Jour. of Perinatology 2025.
4. *Abrar Majeedi*, Viswanatha Reddy, Satya Sai Srinath, Yin Li. **RICA^2: Rubric-Informed, Calibrated Assessment of Actions**. European Conference on Computer Vision (ECCV) 2024.
5. *Abrar Majeedi*, R. Kour, et al. **Deep Learning to Quantify Care Manipulation Activities in Neonatal Intensive Care Units.** Nature Partner Journals (npj) - Digital Medicine 2024.

6. *Abrar Majeedi*, Patrick Peebles, Yin Li, Ryan McAdams. **Glottic Opening Detection using Deep Learning for Neonatal Intubation with Video Laryngoscopy**. Nature - Jour. of Perinatology 2024.
7. *Abrar Majeedi*, B. Naderi, Y. Hosseinkashi, J. Cho, R. Martinez, Ross Cutler. **Full Reference Video Quality Assessment for Machine Learning-Based Video Codecs**. (arXiv:2309.00769).
8. Chenlin Zhang, Lin Sui, *Abrar Majeedi*, Viswantha Reddy, Yin Li. **Detecting Egocentric Actions with ActionFormer.** (EPIC@CVPR2022).
9. 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".

Teaching Experience, Leadership and Activities

- Reviewer for ICML, CVPR, ICLR, AAAI, WACV, MICCAI, Nature - Scientific Reports, Nature Partner Journals (npj) - Digital Medicine, Nature Journal of Perinatology.
- 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).

Technical Skills

Languages: Python
Libraries: PyTorch, Numpy