

# Abrar Majeedi

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## EDUCATION

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### University of Wisconsin-Madison

*PhD in Deep Learning*

Madison, WI

May. 2021 – Dec 2025

- Working on sequential deep learning and its applications

### University of Wisconsin-Madison

*MS in Biomedical Data Science*

Madison, WI

Aug. 2019 – May 2021

- GPA 3.935/4.00

### National Institute of Technology

*B.Tech in Computer Science and Engineering*

Srinagar, India

Aug. 2015 – May 2019

- Department Rank 1
- Governor's Gold Medal for Academic Excellence

## RESEARCH EXPERIENCE

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### Graduate Research Assistant in Deep Learning

Feb 2020 – Present

*Prof. Yin Li, University of Wisconsin-Madison*

- Working on multimodal deep learning
- Research focus: Deep learning, video understanding, sequential data, biomedical applications

### 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

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1. Abrar Majeedi, Viswanatha Reddy, Satya Sai Srinath, Yin Li. **RICA<sup>2</sup>: 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**. Accepted at 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

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### 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

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- Best Poster Award at NSF CHORUS poster competition 2024.
- Governor’s Gold Medal for Academic Excellence (2019).
- Won multiple presentations, debates, and hackathon events.

## TEACHING EXPERIENCE, LEADERSHIP AND ACTIVITIES

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- 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

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**Languages:** Python

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