

Geetika Vadali

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RESEARCH INTERESTS

Deep Learning, Reinforcement Learning, Computer Vision, Computational Biology, Computational Neuroscience, AI for Healthcare, AI for Science, Game Theory

EDUCATION

- **Georgia Institute of Technology (Georgia Tech - Europe)** Metz, France
Master of Science in Computer Science Aug. 2025 – Ongoing
- **Indira Gandhi Delhi Technical University for Women (IGDTUW)** Delhi, India
BTech in Computer Science and Engineering with Artificial Intelligence Aug. 2021 – May 2025
Final CGPA: **9.25/10.00**
- **Central Board of Secondary Education** Delhi, India
Senior Secondary (12th Grade) - 94% ; Secondary (10th grade) - 98.2% June 2021 , June 2019

RESEARCH AND INDUSTRIAL EXPERIENCE

- **Machine Learning Intern:** Aurva, Bengaluru
April 2025 - July 2025
 - Tested various SOTA LLMs on data-security domain specific question-answering and compliance report generation.
 - Employed techniques like Retrieval Augmented Generation and Prompt Engineering to handle complex and large API responses and extract the desirable context.
- **Mitacs Globalink Research Intern:** Northern Institute for Deep Learning in Ultrasound Lab, University of Alberta, Edmonton, Canada
May 2024 - August 2024
 - Trained and integrated a **Deep Reinforcement Learning (DRL)** agent to an existing classifier system that facilitates earlier point-of-care diagnosis for rotator cuff tear. Was responsible for the **reward function formulation and training**. Combined concepts of video summarization, RL and medical data analysis. Advised by Prof. Abhilash R. Hareendranathan.
 - Selected among 50+ interns to present my internship work as a Three-Minute Thesis for an interdisciplinary audience at Research Symposium, University of Alberta.

PUBLICATIONS

- **Shoulder Rotator Cuff Tear Detection from Ultrasound Videos using Deep Reinforcement Learning:** April 2025
Shrimanti Ghosh*, **Geetika Vadali***, Ayush Singh, Yuyue Zhou, Banafshe Felfeliyan, Assefa Wahd, Jessica Knight, Mahesh R. Panicker, Jacob L. Jaremko, Abhilash R. Hareendranathan
Accepted at International Symposium on Biomedical Imaging (ISBI) 2025, Houston TX, United States
- **Video Summarization and Fracture Detection in Pediatric Wrist Ultrasound Using Deep Reinforcement Learning:**
Shrimanti Ghosh, **Geetika Vadali**, Yuyue Zhou, Ayush Singh, Jessica Knight, Christopher Keen, Mahesh R. Panicker, Abhilash R. Hareendranathan, Jacob Jaremko
Accepted at IEEE Engineering in Medicine and Biology (EMBC) 2025, Copenhagen, Denmark
- **Spatio-Temporal Crime Detection Using Surveillance Videos in a Federated Setting:**
Nikita Shrivastava*, Anushka Garg*, **Geetika Vadali***, Ritika Kumari
Accepted at International Conference on Computer Vision and Robotics (CVR) 2025, NIT Goa, India [Paper](#)
- **Convergence to Nash Equilibrium: A Comparative Study of Rock-Paper-Scissors Algorithms:** June 2023
Geetika Vadali*, M Deekshitha Reddy*, Ritu Rani, Poonam Bansal
IEEE International Conference on Computing, Communication, and Intelligent Systems 2023, Noida, India [Code Paper](#)

- **Predicting Optimal Startup Exit Strategies with Ensemble Learning for Venture Capitalists:** Dec 2023
M Deekshitha Reddy, **Geetika Vadali**, Garima Jaiswal, Ritu Rani, and Amita Dev
Springer International Conference on Artificial Intelligence and Speech Technology 2023, IGDTUW, India. Sponsored by DST Curie-AI Project, Government of India and won the best paper award at Springer-AIST'23 from 300+ submissions.
[Paper](#)

ACCOMPLISHMENTS

- **Winner in Wipro Climate Challenge'22** November 2022 - February 2023
Wipro and Climate Collective *Received grant money and incubation support*
 - **Proposed Solution:** : Our solution assures a food storage facility of 'organisation in their stock' and 'optimisation in their flow' using **AI and stock data analytics**. Won the **Top 5 across 1,175 teams** who applied and were invited to the Wipro Earthian Awards, Bangalore. Awarded grant prize of around 1200USD.

TECHNICAL PROFESS

- **Technical Languages:** Python, Java, R, SQL, HTML, CSS
- **Frameworks and Tools:** Tensorflow, PyTorch, Keras, Bootstrap, Pandas, Numpy, Tableau, Matplotlib, Scikit-Learn, Sympy, CI/CD, Bash Scripting
- **Courses Taken:** Database Management Systems, Operating Systems, Data Structures and Algorithms, Optimization Techniques, Numerical Methods, Computer Networks, Compiler Design, Digital Image Processing

WORKSHOPS AND CONFERENCES ATTENDED

- **Conferences:** 9th Annual Conference of Cognitive Science, IIT Delhi, Dec 2022; Presented @ International Conference on Computing, Communication, and Intelligent Systems, India, Nov 2023; Upper Bound Conference, University of Alberta, Amii, May 2024; Presented @ IC-IMPACTS Legacy Conference 2024, Dec 2024
- **Workshops:** AISS - Artificial Intelligence Summer School on Federated Learning, IIIT Delhi, July 2023; Reinforcement Learning Workshop, IISc Delhi, Jan 2025; Neuromatch Computational Neuroscience Summer School, July 2025

LEADERSHIP AND VOLUNTEERING EXPERIENCE

- **Founding Member of Arc - Data Science Club of IGDTUW:** Founding Director of Operations overlooking the Management, Design, Content and Research Teams. Organised and executed datathons, technical talks and community building activities.
- **Desh Ke Mentor (Mentors of the Nation) program:** Mentored 3 Delhi Government high-school girls for further education in STEM.
- **Event Management Core at Association for Computing Machinery-IGDTUW Student Chapter:** Conducted technical and outreach events in online and offline mode. ACM Society member for 2 years.

EXTRACURRICULARS

- **Fine Arts:** With over 15 years of professional training, diploma holder from Pracheen Kala Kendra, Chandigarh
- **Debating:** Active member in the College Debating Club. Represented university at 3 national level Asian Parliamentary Debates. Semifinalist in IIT Delhi APD 2023.

REFERENCES

- **Prof. Abhilash RH:** Assistant Professor, Department of Radiology, University of Alberta, Canada
hareendr@ualberta.ca
- **Prof. Poonam Bansal:** HoD, Department of AI and DS, IGDTUW, New Delhi, India
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- **Prof. Rishabh Kaushal:** Assistant Professor, Department of Information Technology, IGDTUW, New Delhi
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