Aditya Bobde

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EDUCATION

University of Minnesota, Twin–Cities September 2024 – May 2029
PhD in Business Administration
Research Focus: Applied Machine Learning (Information & Decision Sciences)
Activities: Reviewer ICIS 2025, Research Assistant, Teaching Assistant
GPA: 3.81/4.0

G H Raisoni College of Engineering (GHRCE) July 2019 - June 2023
B.Tech in Artificial Intelligence
GPA: 9.05/10.0

SKILLS

- **Programming Languages**: Python, R and C++
- **Tools and Frameworks**: TensorFlow, Pytorch, Scikit-Learn, and Microsoft Azure
- **Certifications & Training**: Machine Learning by Stanford University (Coursera), Introduction to Machine Learning with TensorFlow Nanodegree (Udacity), Deep Learning Nanodegree (Udacity), Computer Vision Nanodegree (Udacity), and Artificial Intelligence Nanodegree (Udacity), Cambridge Business English Certification (CEFR: B1)

RESEARCH CONTRIBUTIONS

- Sumeet Kumar, Rakesh Mallipeddi, Aditya Bobde, Subodha Kumar. ***Exploring Memes as a Catalyst for Social Media Engagement: Evidence from Roe vs. Wade Verdict*** *presented at the workshop on the Information Technologies and Systems*
- Aditya Bobde, Shivam Tawari, Vishal Narnaware, Adarsh Suryawanshi, and Pravin Kshirsagar. ***Countering Dis-information by Multimodal Entailment via Joint Embedding*** *presented at the 2023 International Conference on Intelligent and Innovative Technologies in Computing, Electrical and Electronics*
- Aditya Bobde, Shivam Tawari, Vishal Narnaware and Achamma Thomas. ***Robust Time Series Forecasting via Time Differencing and Stacking*** *presented at the 2022 International Conference on Smart Generation Computing, Communication and Networking*

RESEARCH EXPERIENCE

University of Minnesota: Carlson School of Management
Graduate Research Assistant Sept 2024 – Present
PI: Dr. Ravi Bapna
- Evaluated the financial and market impact of Tesla Full Self-Driving crashes through an analytical study, revealing that disclosures involving FSD in fatal accidents decreased Tesla's stock abnormal returns by approximately 6%, with no effect on sales or consumer sentiment.
- Investigated how Tesla's AI failures affected corporate reputation and found that specific adverse disclosures significantly influenced stock prices, providing critical insights for strategic risk management.

Indian School of Business, Hyderabad
*Research Assistan*t Sept 2023 – June 2024
PI: Dr. Sumeet Kumar
- Engineered a hybrid AI architecture that enhanced meme retrieval accuracy by 40%, successfully categorizing over 500,000 memes, which streamlined content moderation processes.
- Implemented ColBERT and BERT embeddings to classify humor in over 2 million tweets, improving classification accuracy by 25%, significantly aiding content curation efforts.

University of Minnesota: Carlson School of Management
Research Intern June 2023 – April 2024
PI: Dr. Ravi Bapna
- Worked closely with a multidisciplinary research team to analyse employee data, including demographics, performance metrics, and engagement indicators
- Used feature engineering techniques and survival analysis to build predictive models that identified key factors contributing to employee churn, enhancing retention strategies by 15%.

The Ohio State University: Fisher College of Business
Research Collaborator Aug 2022 – Dec 2023
PI: Dr. Rakesh Mallipeddi
- Created a skin tone analysis tool using Otsu binarization that improved racial detection accuracy by 20% over 50,000 facial images, supporting diverse algorithm training sets.
- Boosted skin tone estimation accuracy to 95% by refining RGB analysis algorithms, crucial for developing inclusive facial recognition technologies.

Indian School of Business, Hyderabad
Research Intern July 2022 – Aug 2023
PI: Dr. Sumeet Kumar

- Spearheaded a large-scale data processing project, efficiently fetching and processing over 1 million images, and successfully implemented advanced topic modelling techniques to analyse and categorize data
- Applied state-of-the-art models to extract embeddings from the images, enabling the formation of insightful clusters while visualizing them in Gephi software for network analysis

ACADEMIC PROJECTS

Multimodal Machine Learning for Determining Content Emotion

- Created a multimodal emotion recognition model, integrating text, audio, and video modalities, to accurately identify the emotions conveyed in content.
- Trained on Multimodal EmotionLines Dataset (MELD) to classify into one of the 7 emotions which enhanced the baseline by 11%, measured by F1 score, using better fusion techniques over concatenation

Factd

- Developed Factd, a Multi-Modal Fact-Checking model trained on the *Factify* Dataset with 35000 samples
- It employs the **Mid-Fusion** approach in combination with the Data-Efficient Image Transformer (DeiT) and DeBERTa, which are optimized for common reasoning task to achieve an accuracy of 94.3% in detecting false claims

Hateraid

- Hateraid helps in identifying hate in the form of memes on social media and other hateful content with a accuracy of **92.6%**
- Utilized an Early fusion-based supervised **Multimodal Bi-transformer model** (MMBT) trained on the *Hateful Memes Dataset*, contributing to advanced hate detection in online platform

HONORS & AWARDS

Recipient of IEEE Richard E. Merwin Student Award, 2022

- Distinguished as a recipient of the IEEE Richard E. Merwin Student Scholarship, recognizing outstanding academic achievements and proactive leadership in technology-related initiatives.
- Awarded for active participation within IEEE student branch activities, showcasing commitment to advancing technology for the benefit of humanity.

Smart India Hackathon, 2022

- Winner, Created Interpreter.ai, a deep learning-based real-time translation web app supporting 204 languages, along with features such as **Group Conversation**, **Image Translation,** and **Mute sign language translator**
- Leveraged transfer learning by fine-tuning state of the art NLLB to increase accuracy by 10% compared to google translator's accuracy of 85%

Accenture Applied Intelligence Hackathon, 2021

- Winner, Real-time online platform, CovidWizard, with the help of AI to cultivate data from various sources and provide relevant information
- The information can be sliced and diced as per the user's requirements to help society fight against COVID-19

Artificial Intelligence for Healthcare Hackathon, 2021

- Second Runner Up, created an AI powered website, XRayd, where the user can upload an X-ray/CT scan image to get predictions from 21 diseases using a Deep Learning based model
- Prioritizes AI explainability, Class Activation Map method clarifies the prediction with the help of a heatmap

TEACHING ASSISTANT

- 2025: IDSC 6444 Business Analytics for Managers (MBA)
- 2024: IDSC 4444 Descriptive and Predictive Analytics
- 2022: BAIL 203 Machine Learning Algorithms
- 2021: BAIL 102 Introduction to Machine Learning

ACTIVITIES AND LEADERSHIP

IEEE CIS Student Branch Chapter – GHRCE January 2022 – August 2022
Chairperson

- Organized and mentored 10+ events with 5000+ participants from around the world, fostering knowledge exchange and networking opportunities
- Led IEEE CIS SBC to receive the "2022 Outstanding Chapter Award" from the IEEE CIS Awards Committee, securing $3000 in funding for the chapter to further promote research, education, and industry collaboration

Microsoft Learn Student Ambassador April 2021 – April 2024
Beta Level

- Conducted a ***Machine learning bootcamp***, training over 500 students, imparting essential concepts and applications
- Led 30+ sessions on open source, GitHub, and mentored 300+ students in MLH Hackathons, enhancing their practical coding skills by providing hands-on training in machine learning and fostering coding skills through open source sessions and hackathon mentorship