Eshika Khandelwal

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Education

- **International Institute of Information Technology** — Hyderabad, India
  CGPA: 9.28/10 — *Sept 2020 – Present*
  Bachelor of Technology in Computer Science + Masters of Science by Research in Computational Linguistics
  Teaching Assistant: Advanced NLP; Algorithms Analysis and Design; Introduction to NLP; Machine, Data and Learning; Statistical Methods in AI.
  Dean's merit list for the spring and monsoon semesters of the years 2020-2021, 2021-2022, 2022-2023 and 2023-2024.

Publications

**†Equal contribution*

- Prajneya Kumar*, **Eshika Khandelwal***, Makarand Tapaswi†, Vishnu Sreekumar†, *"Seeing Eye to AI: Comparing Human Gaze and Model Attention in Video Memorability"*, Winter Conference on Applications of Computer Vision (WACV) 2025, Oral Presentation.

Experience

- **IMAGINE, École des Ponts ParisTech** — Paris, France
  Research Intern; Advisor: Prof. Gül Varol, Prof. Andrew Zisserman — *May 2024 - Present*
  - Collaborate with the Visual Geometry Group, University of Oxford, to generate Audio Descriptions (ADs) for movies and TV series, aimed at enhancing accessibility for the visually impaired.
- **KathaAI, Centre of Vision Information Technology, IIIT** — Hyderabad, India
  Undergraduate Researcher; Advisor: Prof. Makarand Tapaswi — *Apr 2022 - Present*
  - **Personality Predicition for Fictional Characters.**
    Propose an architecture to predict characters' personalities in movies and TV series using the Myers-Briggs Type Indicator (MBTI) metric, leveraging their dialogues and interactions. Explored the use of learned embeddings from the predictive model to generate contextually relevant dialogues based on character personalities.
- **Google** — Hyderabad, India
  Software Engineer Intern — *May 2023 - July 2023*
  - Contributed to the development of *a data insights mobile app* to optimize user experience and data accessibility. Improved the app architecture to integrate a global search feature, enhancing functionality across the app modules.
- **Google** — Bangalore, India
  Software Engineer Intern — *May 2022 - July 2022*
  - Collaborated with the Google Pay (GPay) Merchant Team to facilitate seamless interaction between payers and nearby merchants. Designed and implemented a micro service to help onboard new merchants onto the platform.

Projects

- **Comparing Human Gaze and Model Attention in Video Memorability**
  Advisor: Prof. Makarand Tapaswi, Prof. Vishnu Sreekumar — *Jan 2023 to Oct 2024*
  - Collaborated with Mandalab, IIIT Hyderabad, to compare model attention and human gaze patterns in video memorability prediction on large naturalistic video datasets. Collected human gaze fixation maps through a small-scale eye tracking experiment in which participants perform a video memory task.
  - Employed a CNN+Transformer architecture, allowing spatio-temporal attention analysis while achieving state-of-the-art performance. Demonstrated that a model trained solely on memorability prediction aligns with human attention patterns.
- **Simple black box adversial attacks**
  Course project: Statistical Methods in AI, Prof. Vineet Gandhi — *Feb 2023 to Apr 2023*
  - Implemented a rule-based pipeline for black-box adversarial attacks (targetted and untargeted) on machine learning models. Analysed and compared the effect of attacks on image classification models trained on ImageNeT.
- **Empty parking lot detection**
  Course project: Digital Image Processing, Prof. Ravi Kiran — *Sept 2022 to Nov 2022*
  - Developed an image processing pipeline to detect vehicle presence, count available parking spaces, and monitor vacancies in real-time to enhance parking lot efficiency. Implemented the solution for both static images and videos.