Anil Batra

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🌐 https://anilbatra2185.github.io/

Research Interests

Multi-modal AI/LLMs, Conditional Text Generation, Ego/Exo-centric Video Understanding, Diffusion Models

Education

2020 – 2025   ◇   **Ph.D. Computer Science, University of Edinburgh**, UK.
Supervisors: Prof. Frank Keller, Prof. Marcus Rohrbach, Dr. Laura Sevilla
Research Focus: *Understanding the structural aspects of long Ego/Exo-centric videos to enhance multimodal learning, aiming to develop efficient models that can plan, reason, and execute goal-oriented tasks.*

2016 – 2019   ◇   **M.Sc. Computer Science, IIIT Hyderabad**, India
Supervisors: Prof. C.V. Jawahar
Thesis: *Road Topology Extraction from Satellite images by Knowledge Sharing.*
GPA: 8.44/10

2003 – 2007   ◇   **B.Tech. Electronics & Communication, Punjab Technical University**, India.
GPA: 8.38/10

Employment

2022/06 – 2022/09   ◇   **Research Intern, Mediatech Research**, UK
Research Focus: Focused on diffusion model baselines for unconditional image generation, laying the groundwork for future work 'Image generation with shortest path diffusion', accepted at ICML 2023.
Manager: Alberto Bernacchia

2020/05 – 2020/09   ◇   **Sr. Data Scientist, ESRI**, India
Research Focus: Incorporated my published road extraction work arc-gis library for future use by OSM community engineers.
Manager: Rohit Singh

2019/01 – 2020/04   ◇   **Research Engineer, Pro @ Facebook**, India
Research Focus: Train and deploy road extraction pipeline to OSM maps. Technical Blog by Meta
Manager: Saikat Basu

Research Publications

Preprints

1   M. Boris, **Anil, Batra**, R. Anna, and R. Marcus, "The surprising effectiveness of multimodal large language models for video moment retrieval," 2024. arXiv: 2406.18113 [cs.CV]. 🔗 URL: https://arxiv.org/abs/2406.18113.

Conference Proceedings

1   D. Gautier, L. Olga, and **Anil, Batra**, "Cast: Cross-modal alignment similarity test for vision language models," in *COLING*, 2025.

2   **Anil, Batra**, D. Moltisanti, L. Sevilla-Lara, M. Rohrbach, and F. Keller, "Efficient pre-training for localized instruction generation of videos," in *European conference on computer vision*, Springer, 2024.

3 A. Das, S. Fotiadis, **Anil, Batra**, *et al.*, "Image generation with shortest path diffusion," in *International Conference on Machine Learning*, PMLR, 2023, pp. 7009–7024.

4 **Anil, Batra**, S. N. Gowda, F. Keller, and L. Sevilla-Lara, "A closer look at temporal ordering in the segmentation of instructional videos," in *British Machine Vision Conference*, 2022.

5 **Anil, Batra**, S. Singh, G. Pang, S. Basu, C. Jawahar, and M. Paluri, "Improved road connectivity by joint learning of orientation and segmentation," in *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*, 2019, pp. 10 385–10 393.

6 S. Singh, **Anil, Batra**, L. Torresani, *et al.*, "Self-supervised feature learning for semantic segmentation of overhead imagery," BMVA Press, 2018.

Skills

Coding	◇ Python (advanced), C++ (beginner), C♯.Net (intermediate)
ML Frameworks	◇ PyTorch (advanced), Jax (beginner), TensorFlow (beginner)
Misc.	◇ GDAL (beginner), SQL (beginner), Matlab (beginner)
Languages	◇ English (advanced), Hindi (native), Punjabi (native)

Miscellaneous Experience

Teaching

2021 - 2024	◇ Teaching Support for Applied Machine Learning. Roles: Marker, Exam Marker, Tutor
2024	◇ Doing Research in NLP course for first-year PhD students. Roles: Marker
2023	◇ Teaching Support for Natural Language Generation & Understanding. Roles: Marker, Tutor
2021	◇ Teaching Support for Data Mining and Exploration. Roles: Demonstrator, Tutor

Reviewer

2024 +	◇ I have contributed as a reviewer to ICLR/AAAI.
2021 +	◇ I have contributed as a reviewer to CVPR/ECCV/ICCV.

References

Available on Request