

# ANIL K. BATRA

PhD Candidate, [CDT in NLP](#)

✉ [a.k.batra@sms.ed.ac.uk](mailto:a.k.batra@sms.ed.ac.uk)

☎ +44 (0) 790.117.4073

in [linkedin.com/in/anil-batra/](https://www.linkedin.com/in/anil-batra/)

🔗 [anilbatra2185.github.io/](https://anilbatra2185.github.io/)

## RESEARCH EXPERIENCE

PhD at the UKRI Centre for Doctoral Training in NLP  
School of Informatics, University of Edinburgh

📅 Sept 2020 – Oct 2024 (Expected) 📍 Edinburgh, UK

Supervisors : [Dr. Laura Sevilla](#) & [Prof. Frank Keller](#)

- Fine-grained Procedural Video Understanding
- Efficient Multi-modal AI

Research Intern, Mediatek Research

📅 June 2022 – Sep 2022

📍 Remote, UK

- Understand and Implement Diffusion models for unconditional image generation to reduce the inference time. The work '[Image generation with shortest path diffusion](#)' is accepted at ICML 2023.

Research Engineer

Pro @ Facebook

📅 Jan 2019 – May 2020

📍 Gurugram, IN

- Explored different neural architectures and semi/weak supervised methods to extract buildings from satellite images.
- Implemented large scale representation learning flow for satellite images.
- Implemented distributed learning workflows for large scale training to extract road topology from noisy labeled data and deployed to OSM Maps. [Technical Blog by Meta](#)

Research Assistant

IIIT Hyderabad (CVIT)

📅 Jan 2016 – Dec 2018

📍 Hyderabad, IN

Team : [Prof. C.V. Jawahar \(CVIT\)](#), [Suriya Singh \(MILA\)](#), [Guan Pang \(Facebook\)](#), [Saikat Basu \(Facebook\)](#), [Manohar Paluri \(Facebook\)](#)

- Working under the guidance of Prof. C.V. Jawahar and team on the development of knowledge sharing algorithms for the analysis of satellite images with less labeled data.

## PUBLICATIONS

### 👥 Conference Proceedings

- Anil Batra, Davide Moltisanti, Laura Sevilla-Lara, Marcus Rohrbach, and Frank Keller (2024). "[Efficient Pre-training for Localized Instruction Generation of Videos](#)". In: *arxiv*.
- Anil Batra, Shreyank N Gowda, Frank Keller, and Laura Sevilla-Lara (2022). "[A Closer Look at Temporal Ordering in the Segmentation of Instructional Videos](#)". In: *BMVC*.
- Anil Batra\*, Surya Singh\*, Guan Pang, Saikat Basu, C.V. Jawahar, and Manohar Paluri (2019). "[Improved Road Connectivity in an End-to-End Network](#)". In: *CVPR* (\*=Equal Contribution).
- Suriya Singh\*, Anil Batra\*, Guan Pang, Lorenzo Torresani, Saikat Basu, Manohar Paluri, and C.V. Jawahar (2018). "[Self Supervised Feature Learning for Semantic Segmentation of Overhead Images](#)". In: *BMVC* (\*=Equal Contribution).

## EDUCATION

M.S. in Computer Science  
IIIT Hyderabad

📅 Jan 2016 – Jul 2019

CGPA : 8.44/10

B.Tech in Electronics & Communication

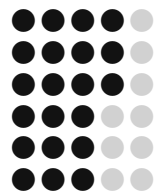
Punjab Technical University

📅 Jul 2003 – May 2007

CGPA : 8.38/10

## SKILLS

Python  
PyTorch  
C#  
TensorFlow  
OpenCV  
C/C++



## OTHER SKILLS

LaTeX JavaScript MATLAB  
HTML GDAL SQL JAX  
TensorBoardX

## COURSE WORK

Computer Vision NLP/NLU  
Probabilistic Modelling and Reasoning  
Computer Graphics  
Linguistics Syntax Pragmatics  
Digital Image Processing  
Neural Networks and Optimization Methods  
Statistical Methods in AI RL basics

## ACHIEVEMENTS

- 🏆 4 Year - PhD Funding (2020-2024)  
UKRI CDT in NLP, University of Edinburgh, Scotland
- 🏆 Qualified GATE 2009  
in ECE with 99.4%tile with All India Rank 254.
- 🏆 Gold Medalist  
in Bachelor of Technology, 2007.

## TEACHING ASSISTANT

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- **Marker** - Image and Vision Computing, Spring 2022
- **Marker** - Applied Machine Learning, Spring 2022
- **Demonstrator & Tutor** - Data Mining and Exploration, Spring 2021

## PROJECTS

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### Multimodal Procedural Learning using WikiHow articles

#### CDT - NLP Project

- Study to investigate the role of visual information to learn the procedures using pairwise comparison of steps of WikiHow articles.

### Motion Field Estimation in image sequence

#### DIP Course Project

- Study and analysis of edge flow in images to estimate the flow of different objects. In the course project, I use discrete Markov Random Field (MRF) to extract the motion of each object from synthetic and natural image sequence.

### Topic Models for Image Annotation & Text Illustration

#### SMAI Course Project

- Study and use Latent Dirichlet Allocation model to describe and annotate images from vast resources of freely available web documents with images.

## INDUSTRIAL EXPERIENCE

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### Sr. Data Scientist, ESRI

📅 May 2020 – Sep 2020      📍 New Delhi, IN

- Improve Road prediction models and implemented my CVPR work in ESRI framework of arcgis-python.

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### Mentor

#### Talent Sprint/IIIT Hyderabad

📅 Jan 2018 – Apr 2018      📍 Hyderabad, IN

- Mentored industrial professional in lab sessions by explaining the concepts of AI & ML in 12 weeks course.

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### Sr. Consultant, Deloitte

📅 Feb 2015 – Sep 2017      📍 Hyderabad, IN

- Business requirement gathering, estimation and solution designing.
- Supervise team members and oversee their professional developments.
- Product Support, incident, change and risk management.

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### Sr. Associate Platform L1, Sapient

📅 March 2010 – Jan 2015      📍 Gurgaon, IN

- Technical impact analysis and solution designing.
- Design and customize web based Content Management applications.

### Sr. Associate Technology, Sapient (Client - Department Of Health)

📅 Jan 2013 – Apr 2014      📍 London, UK

- Coordinate with client teams for deployment and future enhancements.
  - Design, customize and maintain applications in Microsoft Technology stack.
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## CERTIFICATES

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ML Course By Andrew Ng, Coursera

Scrum Master

## PERSONAL DETAILS

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D.O.B. : Dec. 21, 1985  
Marital Status : Married  
Languages : English, Hindi, Punjabi  
Nationality : Indian

## REFERENCES

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Available on Request