

ANIL K. BATRA

PhD Candidate, [CDT in NLP](#)

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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](#)

- Localizing and Summarizing events in instructional videos.
- Multi-modal instruction understanding and generation.
- Video-Language Representation Learning.

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, 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

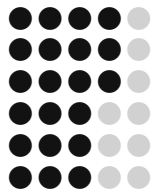
Punjab Technical University

📅 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

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

PROJECTS

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

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.

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.

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.

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

ML Course By Andrew Ng, Coursera

Scrum Master

PERSONAL DETAILS

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

REFERENCES

Available on Request