ARUN CHAUHAN

Associate Professor,
Graphic Era University, Dehradun

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URL: https://github.com/aruntakhur/
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Research Interests

Machine Learning, Deep Learning, Natural Language Processing, Model Compression

Education

Jan 2013 – Dec 2016:
> **Indian Institute of Technology, Roorkee**
> PhD candidate, Computer Science and Engineering
> Topic: Prediction for Recommendation of Places of Visit Using Microblogs

2008-2010:
> **Indian Institute of Technology, Kharagpur**
> Master of Technology (M. Tech.) in School of Information Technology
> Topic: Emotion recognition using Linear Prediction residual.

2003-2006:
> **Institute of Integral Technology, Lucknow**
> Affiliated to Uttar Pradesh Technical University
> Bachelor of Technology (B.Tech) in Information Technology

Papers

Conferences:

Arun Chauhan, Utsav Tiwari, and Vikram NR, "Post Training Mixed Precision Quantization of Neural Networks using First-Order Information", in proceedings of Workshop on Resource Efficient Deep Learning for Computer Vision, **ICCV,** 2023**.** (Accepted)

Shobhan Kumar, Arun Chauhan, and Pavan "Augmenting eBooks with with recommended questions using contrastive fine-tuned T5", in proceedings of 19th International Conference on Natural Language Processing (**ICON**), 2022. (Accepted)

Shobhan Kumar, **Arun Chauhan,** and Pavan "Learning enhancement using Question-Answer generation for e-book using contrastive fine-tuned T5", in proceedinsg of 10th International Conference on Big Data Analytics (**BDA**), 2022. (Accepted)

Arun Chauhan, Jagadish D. N., and Lakshman Mahto, "Multimodality Data Fusion for COVID-19 Diagnosis", in Special Session on HealthCare Data at **IEEE Bigdata,** pp 4659-4666, 2021.

Shankar, Sunil Saumya, and **Arun Chauhan**, "Hate or Non-hate: Translation based hate speech identification in Code-Mixed Hinglish data set" in workshop on Deviant Activities on Social Media at **IEEE Bigdata,** pp 2470-2475, 2021.

Shankar, Sunil Saumya, and **Arun Chauhan**, "mBERT based model for identification of offensive content in south Indian languages" in ACM proceedings of the 13th Forum for Information Retrieval Evaluation (**FIRE**), 2021.

Shobhan Kumar and **Arun Chauhan**, "A FineTuned language model for Recommending cQAQAs for enriching Textbooks", in Pacific-Asia Conference on Knowledge Discovery and Data Mining (**PAKDD**), pp 423-435, 2021.

Jagadish D. N., **Arun Chauhan** and Lakshman Mahto, "Autonomous Vehicle Path Prediction using Conditional Variational Autoencoder Networks", in Pacific-Asia Conference on Knowledge Discovery and Data Mining (**PAKDD**), pp 129-139, 2021.

Jagadish D. N., **Arun Chauhan** and Lakshman Mahto, "Deep Learning Techniques for Autonomous Vehicle Path Prediction", in **AI4UM, AAAI** workshop on AI for Urban Mobility Workshop, 2021.

~**Arun Chauhan** et. al., "Predicting Mental Health of Scholars Using Contextual Word Embedding", in 8th IEEE International Conference on Computing for Sustainable Global Development (INDIACom), pp 923-930, 2021.

~**Arun Chauhan** et. al., "Identifying Distracted Students using Computer Vision and Statistical Methods", in 8th IEEE International Conference on Computing for Sustainable Global Development (INDIACom), pp 791-797, 2021.

Lakhman Mahto and **Arun Chauhan**, "An approximate gradient based hyper-parameter optimization in a neural network architecture", in **NeurIPS (NIPS)** 12th workshop on Optimization in Machine Learning (OPTML), 2020.

Jagadish D. N., Lakshman Mahto and **Arun Chauhan**, "Deep Learning and Density Based Clustering Methods for Road Traffic Prediction", in 5th IAPR International Conference on Computer Vision & Image Processing (**CVIP**), 2020.

Arun Chauhan, Shobhan, Lakshman and Jagadish, "Detection of Reckless Driving using Deep Learning ",19th IEEE International Conference on Machine Learning and Application (**ICMLA**), pp 853-858, 2020.

Shobhan Kumar and **Arun Chauhan**, "Recommending Question-Answers for enriching Textbooks", in proceeding of 8th International Conference on Big Data Analytics (**BDA**), pp. 308-328, Ashoka University, December 2020.

Shobhan Kumar and **Arun Chauhan**, "Making Kids Learning Joyful using Artistic Style Transferred YouTube VCs", in proceeding of 32nd IEEE, TENCON 2020-2020 IEEE Region 10 Conference (**TENCON**), pp. 1106-1111, Osaka, Japan, 2020.

Jagadish, Lakshman and **Arun Chauhan**, "Density Based Clustering Methods for Road Traffic Estimation", in proceeding of 32nd IEEE, TENCON 2020-2020 IEEE Region 10 Conference (**TENCON**), pp. 885-890, Osaka, Japan, 2020.

Shobhan Kumar and **Arun Chauhan**, "Enriching textbooks by Question-Answers using cQA", in proceeding of 31st IEEE, TENCON 2019-2019 IEEE Region 10 Conference (**TENCON**) pp. 707-714, 2019.

Arun Chauhan, Durga Toshniwal and Ravi Tejwani, "Predicting future place of visit using user's personality profile," in proceedings of IEEE International Conference on Computational Techniques in Information and Communication Technologies, New Delhi, , pp. 427-432, 2016.
Digital Object Identifier: 10.1109/ICCTICT.2016.7514619

Arun Chauhan, Shashidhar G. Koolagudi, Sabin Kafley and K. Sreenivasa Rao, "Emotion recognition using LP residual," Students' Technology Symposium (**TechSym**), 2010 IEEE , vol., no., pp.255-261, 3-4 April 2010.
Digital Object Identifier : 10.1109/TECHSYM.2010.5469162

Sabin Kafley, Anil Vuppala, **Arun Chauhan** and K. Sreenivasa Rao,"Continuous digit recognition in mobile environment," Students' Technology Symposium (**TechSym**), 2010 IEEE , vol., no., pp.217-222, 3-4 April 2010
Digital Object Identifier : 10.1109/TECHSYM.2010.5469151

Journals:

Surender, Vijay, **Arun Chauhan**, and Jagadish, "Glomeruli Detection using Segmentation Neural Network", in Journal of Digital Imaging, Springer, 2022. (**SCI, Accepted**)

Surender, Vijay, **Arun Chauhan**, and Jagadish, "An Optimized Crossover Framework for Social Media Sentimental Analysis", in Cybernetics and Systems, Taylor and Francis, 2022. (**SCI, Online**)

Shobhan Kumar, Munesh and **Arun Chauhan**, "Real time Air-Written Mathematical Expression Recognition for children's enhanced learning", in Neural Processing Letters, Springer, 2022. (**SCI, Online**)

Shobhan Kumar and **Arun Chauhan**, "Augmenting Textbooks with cQA Question-Answers and Annotated YouTube videos to increase its relevance", in Neural Processing Letters, Springer, 2022. (**SCI, Online**)

Jagadish, Lakshman and Arun Chauhan, "Autonomous Vehicle Path Prediction using Conditional Variational Autoencoder Networks", in Neural Processing Letters, Springer, 2022. (**SCI, Online**)

Shankar, Sunil Saumya, and **Arun Chauhan**, "Fighting Hate speech from Bilingual Hinglish speaker's perspective, a Transformer and Translation-based approach", in Social Network Analysis and Mining, Springer, 2022. (**ESCI, Online**)

Shankar, Sunil Saumya, and **Arun Chauhan**, "Combating the Infodemic: Covid-19 induced fake news recognition in social media networks.", in Complex & Intelligent Systems, Springer, 2022. Digital Object Identifier: 10.1007/s40747-022-00672-2. (**SCI**)

Shobhan Kumar and **Arun Chauhan**, "Transformer Based Encodings for Detection of Semantically Equivalent Questions in cQA", The Computer Journal, Oxford University Press. Digital Object Identifier: https://doi.org/10.1093/comjnl/bxac003. (**SCI**)

Arun Chauhan, Krishna Kummamuru, and Durga Toshniwal, "Prediction of Places of Visit using Tweets", in Knowledge and Information Systems, Volume 50, Issue 1, pp 145–166 Springer, 2016. Digital Object Identifier: 10.1007/s10115-016-0936-x,. (**SCI**)

Vijay, Pinky, Joyeeta, **Arun Chauhan,** Basudeb, "An optimized feature selection technique based on incremental feature analysis for biometric gait data classification", Multimedia Tools and Applications, Volume 76, Issue 22, pp 24457-75, Springer 2016. Digital Object Identifier:10.1007/s11042-016-4110. (**SCI**)

Arun Chauhan, Ravi Tejwani, and Durga Toshniwal, "Twitter Can Predict Your Next Place of Visit", in International Journal of Distributed Sensor Networks, vol. 2016, Article ID 9274715, 10 pages, 2016. Digital Object Identifier:10.1155/2016/9274715. (**SCI**)

Patents Published

1	202111060757	Ashwini Kumar Singh, Vijay Singh Surender Singh Samant Arun Chauhan Dr. Bhaskar Pant	Dooring Accident Prevention System Publication Date (u/s 11a): 31/12/2021
2	202111060782	Vijay Singh Ashwini Kumar Singh Surender Singh Samant Arun Chauhan Dr. Bhaskar Pant	Digital Camouflage Uniform Publication Date (u/s 11a): 31/12/2021
3	202111061021	Vijay Singh Ashwini Kumar Singh Surender Singh Samant Arun Chauhan Dr. Bhaskar Pant	Content Masking System on Streaming Publication Date (u/s 11a): 31/12/2021
4	202341000351	Arun Chauhan, Vikram N R, Payal Anand, Rohit Saxena, Hitesh Kumar, Utsav Kumar	Mixed Precision Quantization Using First Order Methods Only Filed 2023
5	202241064217	Arun Chauhan, Vikram N R, Payal Anand, Rohit Saxena, Hitesh Kumar, Utsav Kumar	A System and Method to Train the Deep Neural Networks with Better Accuracy. Filed 2022

PhD Supervision

1. **Student Name:** Mr. Shobhan Kumar (19PHDCS01) (**Feb 2019 to Till Date**) at Indian Institute of Information Technology.
   PhD Status: Synopsis Seminar Done on February 2023 (**Submitted PhD Thesis July 2023.**)
   Role: Co-Supervisor.

2. **Student Name:** Mr. Shankar Biradar (20PHDCS01) (**Mar 2020 to Till Date**) at Indian Institute of Information Technology.
   PhD Status: Course Work and Comprehensive Exam Done on **Sep 2022.**
   Role: Co-Supervisor.

Employers

Graphic Era University, Dehradun
Associate Professor, CSE **(**July 2023 – Till Date**)**
University website: http://www.geu.ac.in

Samsung Research Institute, Bangalore
Senior Chief Engineer, Neural Architecture Search (May 2022 – July 2023)
Company website: https://research.samsung.com/sri-b

Graphic Era University, Dehradun
Associate Professor, CSE **(**Oct 2021 – May 2022**)**
University website: http://www.geu.ac.in

IIIT Dharwad, Karnataka
Assistant Professor, CSE (Nov 2017 – July 2021)
University website: http://iiitdwd.ac.in/

Birla Institute of Technology and Science, Pilani
Assistant Professor, Department of Computer Science and Information Systems
(February 2017 – November 2017)
University website: http://www.bits-pilani.ac.in/pilani/computerscience/ComputerScience

IIIT Dharwad, Karnataka
Assistant Professor (**On Contract**), CSE (Aug 2016 – Jan 2017)
University website: http://iiitdwd.ac.in/

IBM Watson, Bangalore
Internship (May 2014 – May 2015)
Mentor: Dr. Krishna Kummamuru

Graphic Era University, Dehradun
Assistant Professor-CSE (June 2010 – Dec 2012)
University website: http://www.geu.ac.in

Graphic Era Institute of Technology, Dehradun
Assistant Professor-CSE (Aug 2007 – May 2008)
University website: http://www.geu.ac.in

Teaching

Machine Learning, Deep Learning, Soft Computing, Algorithms, Basic Programming, Data Structures.

Administrative Responsibilities

- Head of the Department from Feb 2019 to Feb 2021 at IIIT Dharwad.
- Training and Placement officer from Jan 2018 to July 2018 at IIIT Dharwad
- Member of Technical committee from Jan 2018 till today at IIIT Dharwad
- Member of Training and Placement committee from July 2018 till today IIIT Dharwad
- Faculty advisor of 6th semester 2018
- Faculty advisor of 6th semester 2019

Programming Languages

R, C/C++, Java, Matlab, Python.

Other Relevant Information

- **GATE 2008**- All India Rank: 56
- Participated in **Faculty enablement program** at **Infosys, Chandigarh** from 20-24 June 2011.
- **MHRD Fellowship** for M.Tech, 2008-10.
- **MHRD Fellowship** for PhD, 2013-2016.
- **Best Paper Award** in International workshop on Machine Learning and Text Analytics, 2013.
- **Best Presentation award** at Xerox Research Center India (XCRI) open 2016.
- **Convener,** Short Term Training Program on Machine Learning (ML) from 27 - 31 Jan 2018 at KLE, Hubli, Karnataka.
- **Invited Speaker** at ML workshop, National Institute of Technical Teachers' Training and Research, Kolkata from 19-23 Feb, 2018.
- **Invited Speaker** at ML workshop, Poojya Dooddappa Appa, College of Engineering, Gulbarga, Karnataka from 4-9 April, 2018.
- **Invited Speaker** at ML workshop, Indian Institute of Technology, Roorkee, Uttrakhand from 4-7 June, 2018.
- **Convener,** FDP on Machine Learning from 23 - 27 July 2018 at IIIT Dharwad, Karnataka.
- **Invited Speaker** at ML workshop, National Institute of Technology, Meghalaya from 28 Oct – 2 Nov, 2018.
- **Invited Speaker** at ML workshop, National Institute of Technical Teachers' Training and Research, Kolkata from 04-08 Feb, 2019.
- **Invited Speaker** at ML workshop, VTU, Belgaum on 29 July 2019.
- **Invited Speaker** at ML workshop at BEC, Bagalkot on 4 Oct 2019.
- **Invited Speaker** at IIT Indore on 19 March 2021.
- **Invited Speaker** at Indra Gandhi University, Meerpur-Rewari, 17 Oct 2021.
- **Invited Speaker** at Raghu Engineering College, Vishakhapatnam, 18 Dec 2021.
- **Invited Speaker** at Indra Gandhi University, Meerpur-Rewari, 22 Dec 2021.

References

Dr. Chandresh K. Maurya CSE, Assistant Professor, IIT Indore.	Dr. Lakshman Mahto Mathematics, IIIT Dharwad	Dr. Jagadish DN, ECE, Assistant Professor, IIIT Dharwad
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Date: 26 September 2023   Arun Chauhan