CURRICULUM VITAE

Sanjay Kumar Sonbhadra
Research Scholar,
Department of Information Technology
Indian Institute of Information Technology Allahabad,
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Personal Profile

Father's Name	Prof. Jeevan Lal Sonbhadra
Date of Birth	29th June, 1982
Current Address	RSA-605,
	IIIT Allahabad, Prayagraj
	Uttar Pradesh, India -211015
Permanent Address	4-Sai Nagar, Katulbod,
	Durg, Chhattisgarh,
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Experience Details

July-2017- Till date	Senior Research Fellow, IIIT Allahabad, India
July'2009 - July'2017	Asst. Professor, SSITM Junwani, Bhilai(C.G.)
Jan'2009 - July'2009	Cognizant Technology Services, Chennai
July'2008 - Jan'2009	Lecturer, NIT Raipur (C.G.), India

Academic Credentials

PhD. (Information Technology)	IIIT Allahabad, U.P.	Pursuing
M.Tech (Computer Science)	BIT Mesra, Ranchi	2008
B.E. (Information Technology)	NIT Raipur, C.G.	2004
HSSC	Bhilai Vidyalaya, C.G.	1999
HSC	Bhilai Vidyalaya, C.G.	1997

Technical Competencies

Core Subjects	Operating Systems, Automata Theory, Compiler Design, Computer Networks, Database Management Systems, Data Structures & Algorithms, Information Theory and Coding. AI and NN
Languages	Python, C, C++, Java (Core & Advanced)

Internet Technologies	AJAX, JavaScript, JSP
Database	Oracle, MongoDB
Simulation Tools	Matlab, NS2, NS3, GNS3, QualNet5.0, Cisco Packet Tracer
Data Analysis Tools/Platforms	Hadoop, Spark, Flink, Weka, Wireshark

Research Profile

Research Interest: Machine Learning, Pattern Recognition, Deep Learning, Big Data analytics.

Research Experience: - 6 years

Pursuing **PhD. Thesis** entitled "Dimensionality reduction of distributed data for target specific mining" since July, 2017 at Indian Institute of Information Technology Allahabad, U. P.

M.Tech. Thesis entitled "Protein Secondary Structure Prediction", was submitted to Birla Institute of Technology, Mesra (Deemed University) for award of M.Tech degree, awarded – 2008.

Publications

❖ Chowdary, G. Jignesh, Narinder Singh Punn, Sanjay Kumar Sonbhadra, and Sonali Agarwal. **"Face mask detection using transfer learning of inceptionv3."** In International Conference on Big Data Analytics, pp. 81-90. Springer, Cham, 2020.

❖ Sonbhadra, Sanjay Kumar, Sonali Agarwal, and P. Nagabhushan. **"Early-stage COVID-19 diagnosis in presence of limited posteroanterior chest X-ray images via novel Pinball-OCSVM."** arXiv preprint arXiv:2010.08115 (2020).

❖ Sonbhadra, Sanjay Kumar, Sonali Agarwal, Mohammad Syafrullah, and Krisna Adiyarta. **"Email classification via intention-based segmentation."** In 2020 7th International Conference on Electrical Engineering, Computer Sciences and Informatics (EECSI), pp. 38-44. IEEE, 2020.

❖ Sonbhadra, Sanjay Kumar, Sonali Agarwal, Mohammad Syafrullah, and Krisna Adiyarta. **"Person tracking with non-overlapping multiple cameras."** In 2020 7th International Conference on Electrical Engineering, Computer Sciences and Informatics (EECSI), pp. 137-143. IEEE, 2020.

❖ Sonbhadra, Sanjay Kumar, Sonali Agarwal, Mohammad Syafrullah, and Krisna Adiyarta. **"Aggressive driving behaviour classification using smartphone's accelerometer sensor."** In 2020 7th International Conference on Electrical Engineering, Computer Sciences and Informatics (EECSI), pp. 77-82. IEEE, 2020.

❖ Sonbhadra, Sanjay Kumar, Sonali Agarwal, and P. Nagabhushan. **"Target specific mining of COVID-19 scholarly articles using one-class approach."** Chaos, Solitons & Fractals 140 (2020): 110155. *(SCI, IF-3.764)*

❖ Dandekar, Mohit, Narinder Singh Punn, Sanjay Kumar Sonbhadra, and Sonali Agarwal. **"Fruit classification using deep feature maps in the presence of deceptive similar classes."** arXiv preprint arXiv:2007.05942 (2020).

❖ Sumanth, Uppala, Narinder Singh Punn, Sanjay Kumar Sonbhadra, and Sonali Agarwal. **"Enhanced Behavioral Cloning Based self-driving Car Using Transfer Learning."** arXiv preprint arXiv:2007.05740 (2020).

❖ Agarwal, Sonali, Narinder Singh Punn, Sanjay Kumar Sonbhadra, P. Nagabhushan, K. K. Pandian, and Praveer Saxena. **"Unleashing the power of disruptive and emerging technologies amid COVID 2019: a detailed review."** arXiv preprint arXiv:2005.11507 (2020).

❖ Alam, Shamshe, Sanjay Kumar Sonbhadra, Sonali Agarwal, and P. Nagabhushan. **"One-class support vector classifiers: A survey."** Knowledge-Based Systems 196 (2020): 105754. *(SCI, IF- 5.921)*

❖ Punn, Narinder Singh, Sanjay Kumar Sonbhadra, and Sonali Agarwal. **"Monitoring COVID-19 social distancing with person detection and tracking via fine-tuned YOLO v3 and Deepsort techniques."** arXiv preprint arXiv:2005.01385 (2020).

❖ Sonbhadra, Sanjay Kumar, Sonali Agarwal, Mohammad Syafrullah, and Krisna Adiyarta. **"An Application of Ensemble and Deep Learning Models in Predictive Analytics."** In 2020 IEEE 7th International Conference on Industrial Engineering and Applications (ICIEA), pp. 574-582. IEEE, 2020.

❖ Alam, Shamshe, Sanjay Kumar Sonbhadra, Sonali Agarwal, P. Nagabhushan, and Muhammad Tanveer. **"Sample reduction using farthest boundary**

point estimation (FBPE) for support vector data description (SVDD)." Pattern Recognition Letters 131 (2020): 268-276. *(SCI IF- 3.255)*

❖ Punn, Narinder Singh, Sanjay Kumar Sonbhadra, and Sonali Agarwal. **"COVID-19 epidemic analysis using machine learning and deep learning algorithms."** MedRxiv (2020).

❖ Dhannuri, Svam Prasad, Sanjav Kumar Sonbhadra, Sonali Agarwal, P. Nagabhushan, M. Syafrullah, and Krisna Adivarta. **"Privacy Control In Social Networks By Trust Aware Link Prediction."** In 2019 6th International Conference on Electrical Engineering, Computer Science and Informatics (EECSI), pp. 410-415. IEEE, 2019.

❖ Agarwal, Prachi, Sanjay Kumar Sonbhadra, Sonali Agarwal, P. Nagabhushan, M. Syafrullah, and Krisna Adiyarta. **"Gesture recognition by learning local motion signatures using smartphones."** In 2019 6th International Conference on Electrical Engineering, Computer Science and Informatics (EECSI), pp. 442-447. IEEE, 2019.

❖ Sonbhadra, Sanjay Kumar, Sonali Agarwal, and P. Nagabhushan. **"Hexa-Directional Feature Extraction for Target-Specific Handwritten Digit Recognition."** In International Conference on Machine Intelligence and Signal Processing, pp. 427-439. Springer, Singapore, 2019.

❖ Sarkar, Anirban, Sanjay Kumar Sonbhadra, and Sonali Agarwal. **"Predictive Analytics Using Ensemble Models."** In 2019 IEEE Students Conference on Engineering and Systems (SCES), pp. 1-5. IEEE, 2019.

❖ Middha, Vishesh, Sanjay Kumar Sonbhadra, and Sonali Agarwal. **"Concept Drift Detection in Email Dataset through Intention Based Segmentation."** In 2019 IEEE Students Conference on Engineering and Systems (SCES), pp. 1-5. IEEE, 2019.

❖ Agrawal, Sonali, Sanjay Kumar Sonbhadra, and Sonali Agarwal. **"Favour prediction of Taxi services using real-time visualization."** In 2018 International Conference on Advances in Computing, Communications and Informatics (ICACCI), pp. 2276-2282. IEEE, 2018.

❖ Kaushik, Devender, Bakshi Rohit Prasad, Sanjay Kumar Sonbhadra, and Sonali Agarwal. **"Post-Surgical Survival forecasting of breast cancer patient: a novel approach."** In 2018 International Conference on Advances

in Computing, Communications and Informatics (ICACCI), pp. 37-41. IEEE, 2018.

- ❖ Priyanka Kalkandha ,Charu Wahi, Seema Sharma, Sanjay Kumar Sonbhadra **"Current State of Art of Energy Efficient PEGASIS Routing Protocols in WSNs",** International Journal of Advanced Research In computer Science and Software Engineering, Volume 5, Issue 12, December 2015.

- ❖ Sanjay Kumar Sonbhadra, Charu Wahi **"Performance evaluation of routing protocols with variation in node speed for mobile ad-hoc networks",** International Journal of Computer Networking, Wireless and Mobile Communications (IJCNWMC), Jan 2013.

- ❖ Charu Wahi, Sanjay Kumar Sonbhadra, Dr.Shampa Chakraverty,, Dr. V Bhatacharya **"Effect of Scalability and Mobility on On-Demand Routing protocols in a Mobile Ad-Hoc Network"**, 2012 International Conference on Software and Computing Technology (ICSCT 2012), 21-22nd Dec'2012, Malaysia.

- ❖ Charu Wahi, Sanjay Kumar Sonbahdra **"Performance evaluation of MANET routing protocols for mobility using QualNet"**, Int. Conf. on Cloud Computing and E-Governance (ICCCEG), 26-28th July'2012, Bangkok.

- ❖ Charu Wahi, Sanjay Kumar Sonbhadra **"Mobile Ad Hoc Network Routing Protocols: A Comparative Study"**, International Journal of Ad-Hoc, Sensor & Ubiquitous Computing (IJASUC), Vol.3, No.2, April'2012.

- ❖ Charu Wahi, Sanjay Kumar Sonbhadra **"Comparative study of Routing protocols in Mobile Ad-Hoc Network"**, NCICT, 4-5 Feb'2011.

Workshops conducted

- ❖ 5 days workshop on **"Big Data Analytics and Machine Learning"** at Global Academy of Technology, Bangalore, India (April 2019)

- ❖ Two weeks FDP on **"Artificial Intelligence and Machine Learning"** at Global Academy of Technology, Bangalore, India (July 2019)

- ❖ FDP on **"Machine learning and deep learning for real time analytics"** at Mepco Schlenk Engineering College, Shivakashi, Tamilnadu (11-21 Nov, 2019)

- ❖ Sessions conducted on **"Big Data Analytics"** and **"Intelligent algorithms"** for Alva's TECHNOTHON-2020 at Alva's Institute of Engineering & Technology, Moodbidri.

Workshops/ Conferences Attended

- ❖ **Big Data Analytics (BDA)-2019** at Ahmedabad University, Ahmedabad, Gujarat, India (December 17 - 20, 2019).
- ❖ **Machine Intelligence and Signal Processing (MISP) - 2019** at Indian Institute of Information Technology Allahabad, U. P. (September 7-10, 2019).
- ❖ IEEE CIS Summer School 2019 **"Big Data Analytics and Stream Processing:Tools, Techniques and Application"** at Indian Institute of Information Technology Allahabad, U. P. (August 10 - 14, 2019).
- ❖ EECSI-2019 at Bandung Indonesia (October 16-18, 2018).
- ❖ GIAN course on **"Parallel and Distributed Data Stream Mining"** at Indian Institute of Information Technology Allahabad, U. P.(December 18- 22, 2017).
- ❖ Short-term course on **"Big Data Analytics"** at S.V. National Institute of Technology, Surat, Gujrat, India **(**27June-1 July 2016**)**.
- ❖ Short-term course on **"Wireless Networking and Cyber Security"** at NITTTR, Chandigarh, India **(**3-7 August 2015**)**.
- ❖ Short-term course on **"Wireless Networking Through ICT"** at NITTTR, Chandigarh, India **(**17-21 November 2014**)**.
- ❖ Workshop on **"Wireless Network Simulation Using NS-2"** at Thapar University, Patiala, Punjab, India (13-15 March 2014).
- ❖ Short-term course on **"Open Source Technology"** at NITTTR, Chandigarh, India **(**18-22 February 2013**)**.
- ❖ **"NPTEL-Role of Programme in Enhancing Engineering Education"**, IIT Kharagpur, (20-21 Sept'2012).
- ❖ **International** workshop on **"Advance Data Structures and Algorithms"** at ThaparUniversity, Patiala, Punjab, India (4th June to 15th June 2012).
- ❖ **"Network Simulators for Research Issues in Wireless Technology NSRIWT2012"**at BIT, Sathyamangalam, Tamilnadu, India (27thfeb to 4th March 2012).

❖ **Short-term** training programme on **"Network security-A practical perspective"** at IIIT Gwalior, India (5-7 September 2011).

Reviewer of Journals/ Conferences:

IEEE Transactions on Multimedia, IEEE Transactions on Emerging Topics in Computational Intelligence, MISP-2019,