

# CHANDAN GAUTAM

Github: <https://github.com/Chandan-IITI>

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## CONTACT INFORMATION

Indian Institute of Science  
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## EDUCATION

*PhD - Computer Science and Engineering* Jan 2015 - May 2020  
Indian Institute of Technology Indore, India CGPA: 9.0/10  
Thesis Title: Kernel-based Learning in the Absence of Counterexamples: One-class Classification  
Advisor: Dr. Aruna Tiwari

*M.Tech - Information Technology* August 2012 - July 2014  
University of Hyderabad, India CGPA: 8.63/10  
Thesis Title: Hybrid Intelligence System for Data Imputation  
Advisor: Dr. Vadlamani Ravi

*B.E. - Computer Science and Engineering* August 2007 - May 2011  
Vinayaka Missions University, Salem, Tamil Nadu, India Percentage: 78.8%

## RESEARCH INTERESTS

BROAD: Machine Learning  
SPECIFIC: One-Class Classification, Anomaly/Novelty Detection, Kernel Learning, Non-iterative Approaches in Learning, and Data Imputation

## PUBLICATIONS

### International Journals (In chronological order)

- J1. C. Gautam**, A. Tiwari, P. K. Mishra, S. Suresh, A. Iosifidis, M. Tanveer. *Graph-Embedded Multi-layer Kernel Ridge Regression for One-class Classification*, **Cognitive Computation**, 2020 (Springer). (SCI, IF: 4.287) (Accepted)
- J2. C. Gautam**, P. K. Mishra, A. Tiwari, B. Richhariya, H. M. Pandey, S. Wang, M. Tanveer. *Minimum Variance-Embedded Deep Kernel Regularized Least Squares Method for One-class Classification and Its Applications to Biomedical Data*, **Neural Network**, vol. 123, pp. 191-216, 2020 (ELSEVIER). (SCI, IF: 5.785)
- J3. C. Gautam**, A. Tiwari, M. Tanveer. *AEKOC+: Kernel Ridge Regression-based Auto-Encoder for One-class Classification using Privileged Information*, **Cognitive Computation**, pp. 1-14, 2020 (Springer). (SCI, IF: 4.287)
- J4. C. Gautam**, A. Tiwari, M. Tanveer. *KOC+: Kernel Ridge Regression based One-class Classification using Privileged Information*, **Information Sciences**, vol. 504, pp. 324-333, 2019 (ELSEVIER). (SCI, IF: 5.524)
- J5. C. Gautam**, A. Tiwari, S. Suresh, and K. Ahuja. *Adaptive Online Learning with Regularized Kernel for One-class Classification*, **IEEE Transactions on Systems, Man, and Cybernetics: Systems**, pp. 1-16, 2019 (IEEE). (SCI, IF: 7.351)
- J6. M. Tanveer**, **C. Gautam**, P. N. Suganthan. *Comprehensive Evaluation of Twin SVM based Classifiers on UCI Datasets*, **Applied Soft Computing**, vol. 83, pp. 1-15, 2019 (ELSEVIER). (SCI, IF: 4.873)

- J7. C. Gautam**, R. Balajia, K. Sudharsan, A. Tiwari, and K. Ahuja. *Localized Multiple Kernel Learning for Anomaly Detection: One-class Classification*, **Knowledge-Based Systems**, vol. 165, pp. 241-252, 2018 (ELSEVIER). (SCI, IF: 5.101)
- J8. C. Gautam**, A. Tiwari, and Q. Leng. *On The Construction of Extreme Learning Machine for Online and Offline One Class Classifier - An Expanded Toolbox*, (Selected in the conference for submitting to this Journal), **Neurocomputing**, vol. 261, pp. 126-143, 2017 (ELSEVIER). (SCI, IF: 4.072)
- J9. C. Gautam** and V. Ravi. *Counter Propagation Auto Associative Neural Network based Data Imputation*, **Information Sciences**, vol. 325, pp. 288-299, 2015 (ELSEVIER). (SCI, IF: 5.524)
- J10. C. Gautam** and V. Ravi. *Data Imputation via Evolutionary Computation, Clustering and a Neural Network*, **Neurocomputing**, vol. 153, pp. 134-142, 2015 (ELSEVIER). (SCI, IF: 4.072)

#### Communicated Papers in Journals

- J11. C. Gautam** A. Tiwari, P. K. Mishra. *Multi-layer Kernel Ridge Regression for One-class Classification*, Applied Intelligence (Springer). (Received First Revision in August 2020) (IF: 2.882)
- J12. P. K. Mishra, C. Gautam** A. Tiwari. *Minimum Variance-Embedded Auto-associative Kernel Extreme Learning Machine for One-class Classification*, Neurocomputing (ELSEVIER). (Submitted) (IF: 4.072)

#### International Conferences and Workshops

- C1. C. Gautam**, R. Bansal, R. Garg, V. Agarwalla, and A. Tiwari. *A Fast Adaptive Classification Approach Using Kernel Ridge Regression and Clustering for Non-stationary Data Stream*, Machine Intelligence and Signal Analysis (MISP), Indore, India, pp. 739-751, December, 2019 (Springer).
- C2. C. Gautam**, A. Tiwari. *Localized Multiple Kernel Support Vector Data Description*, International Conference on Data Mining Workshops (IEEE ICDM Workshop-2018), Singapore, pp. 1514-1521, November, 2018.
- C3. C. Gautam**, A. Tiwari, and A. Iosifidis. *Minimum Variance-Embedded Multi-layer Kernel Ridge Regression for One-class Classification*, IEEE Symposium Series on Computational Intelligence (IEEE SSCI-2018), Bengaluru, India, pp. 389-396, November, 2018. (Flagship annual international conference sponsored by the IEEE Computational Intelligence Society, Rank C)
- C4. C. Gautam**, A. Tiwari, S. Ravindran. *Construction of Multi-class Classifiers by Extreme Learning Machine Based One-Class Classifiers*, International Joint Conference on Neural Networks (**IJCNN-2016**), Vancouver, July, 2016 (IEEE). (Flagship conference of the IEEE Computational Intelligence Society and the International Neural Network Society, Rank A)
- C5. C. Gautam**, A. Tiwari. *On The Construction of Extreme Learning Machine for One Class Classifier*, International Conference on Extreme Learning Machines (ELM-2015), Hangzhou, China, vol. 6, pp. 447-461, December, 2015 (Springer). (Received travel grant by Department of Science and Technology, Govt. of India)
- C6. S. Ravindran, C. Gautam**, A. Tiwari. *Keystroke User Recognition through Extreme Learning Machine and Evolving Clustering Method*, International Conference on Computational Intelligence and Computing Research (ICCIC-15), Madurai, India, pp. 1-5, 2015 (IEEE). (**Best Paper Award**)

- C7.** K. Ravi, V. Ravi, **C. Gautam**. *Online and semi-online sentiment classification*, International Conference Computing, Communication & Automation (ICCCA-2015), Greater Noida, India, pp. 938-943, 2015 (IEEE).
- C8.** **C. Gautam**, V. Ravi. *Evolving Clustering Based Data Imputation*, International Conference on Circuits, Power and Computing Technologies (ICCPCT-2014), Kanyakumari, India, pp. 1763-1769, 2014 (IEEE). (**Received travel grant** by IDRBT, Hyderabad, India)

#### International Book

- B1.** **C. Gautam**, V. Ravi. *Auto Associative Extreme Learning Machine based Hybrids for Data Imputation*, e-book: Handbook of Research on Intelligent Techniques and Modeling Applications in Marketing Analytics, IGI Global, pp. 75-99, 2016.

WORK EXPERIENCE	POSTDOCTORAL FELLOW INDIAN INSTITUTE OF SCIENCE (IISc), Bengaluru	July 2020 - Present
INTERNSHIP AND TEACHING ASSISTANTSHIP	INSTITUTE FOR DEVELOPMENT AND RESEARCH IN BANKING TECHNOLOGY (IDRBT), Hyderabad <i>Research Intern</i> , Center of Excellence in CRM and Analytics Lab	June 2013 - June 2014
	DATA MINING, IIT Indore <i>Teaching Assistant</i> (Instructor: Dr. Aruna Tiwari)	Jan 2015 - April 2015 Students: 40
	C PROGRAMMING, IIT Indore <i>Teaching Assistant</i> (Instructor: Dr. Tanima Dutta)	July 2015 - Nov 2015 Students: 60
	DATA MINING, IIT Indore <i>Teaching Assistant</i> (Instructor: Dr. Aruna Tiwari)	Dec 2015 - April 2016 Students: 40
	DATABASE MANAGEMENT SYSTEM, IIT Indore <i>Teaching Assistant</i> (Instructor: Dr. Aruna Tiwari)	July 2016 - Nov 2016 Students: 40
	COMPUTATIONAL INTELLIGENCE, IIT Indore <i>Teaching Assistant</i> (Instructor: Dr. Aruna Tiwari)	Dec 2016 - April 2017 Students: 40
MENTORING EXPERIENCE	<ul style="list-style-type: none"> <li>- Mentored and proposed research projects for 12 undergraduate and masters students from IIT Indore.</li> <li>- Worked with the students to meet the specific research goals, and held regular one-on-one meetings to ensure progress.</li> </ul>	
	Minimum Variance-Embedded Deep Kernel Regularized Least Square Method for One-class Classification and Its Applications to Biomedical Data <i>Pratik Mishra</i>	Nov 2018 - May 2020
	Localized Multiple Kernel Learning for Anomaly Detection <i>Ramesh Balaji, K. Sudharsan</i>	July 2017 - April 2018
	A Fast Adaptive Active Learning Using Kernel Ridge Regression and Clustering for Non-stationary Environment <i>Raman Bansal, Ruchir Garg, Vedanta Agarwalla</i>	July 2017 - Dec 2017

Multi-task Learning for One-class Classification  
*Dhruv Ahuja*

July 2016 - Dec 2016

Keystroke User Recognition through ELM and Evolving Clustering Method  
*Sriram Ravindran*

Jan 2015 - Dec 2015

TECHNICAL  
SKILLS

MATLAB, C Programming, Python, TensorFlow, R Programming, SAS E-Miner, IBM SPSS, KNIME, NeuroShell, and RapidMiner

AWARDS

- Received Travel Grant by CoDS-COMAD 2019 to attend the ACM India Joint International Conference on Data Science & Management of Data (6th ACM IKDD CoDS and 24th COMAD).
- Received Travel Grant by Department of Science and Technology, Govt. of India, for attending conference.
- Received *Visvesvaraya Scheme* fellowship supported by the *Department of Electronics and Information Technology* (DEITY), Government of India for doctoral research.
- Secured a position among the top 10% participant in Machine Learning competition during masters, organized by Indian Institute of Science (IISc) Bangalore and Microsoft.
- Awarded 1st prize in Hindi poetry in University of Hyderabad.
- Scored 97.84 percentile in GATE 2012 and received the fellowship from MHRD, Government of India, for pursuing my master's degree.

PROFESSIONAL  
SERVICES

- Review Editor of *Frontiers in Applied Mathematics and Statistics*
- Reviewer of various SCI indexed journals viz., *ACM Transactions on Multimedia Computing Communications and Applications*, *IEEE Trans. on Cybernetics*, *Information Fusion*, *Neurocomputing*, *Artificial Intelligence in Medicine*, *Multidimensional Systems and Signal Processing*, and *IEEE System Journal*.
- Provided secretarial and technical assistance in various events viz., *CMOCI symposium*, *MISP conference*, *GIAN course*, various workshops (*CMOCI*, *CSIR-CEERI*, and *Nature Inspired Optimization Techniques & their Applications*).
- Invited to attend *ACM-Microsoft-Infosys Academic Research Summit*, *IISC Bangalore*.

EXTRA-CURRICULAR  
ACTIVITIES

- Won prizes in School and College level Essay and Poem Writing competitions.

REFEREES

Dr. Vadlamani Ravi  
*Professor, IDRBT, Hyderabad*

[vravi@idrbt.ac.in](mailto:vravi@idrbt.ac.in)

Dr. Sundaram Suresh  
*Associate Professor, Department of Aerospace, IISc, Bangalore*

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*Associate Professor, Discipline of Mathematics, IIT Indore*

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*Associate Professor, Discipline of Computer Science and Engineering, IIT Indore*

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Dr. Aruna Tiwari  
*Associate Professor, Discipline of Computer Science and Engineering, IIT Indore*

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