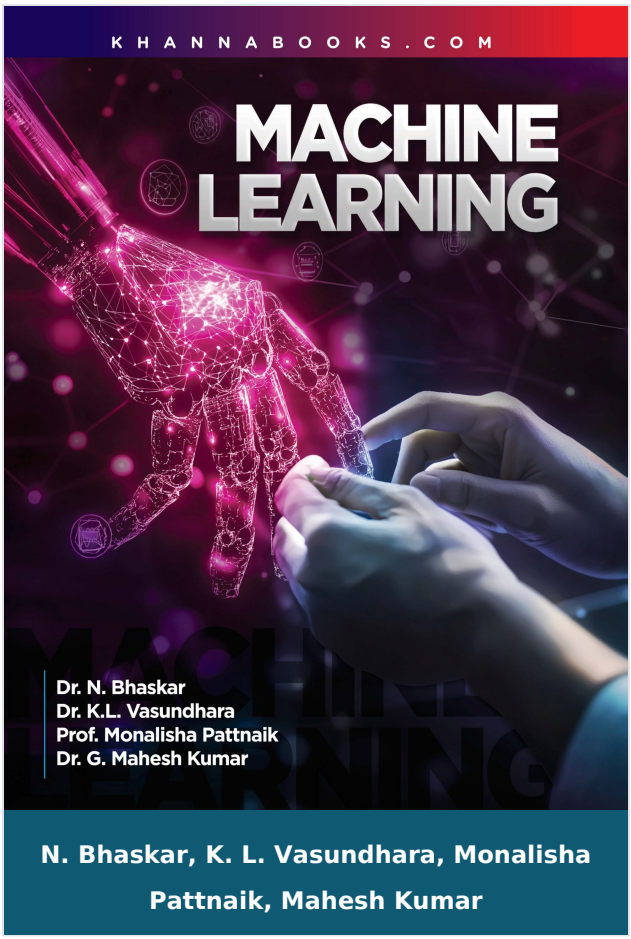

Machine Learning

Author :	N. Bhaskar, K. L. Vasundhara, Monalisha Pattnaik, Mahesh Kumar
ISBN 13 :	978-93-55384-98-0
ISBN 10 :	9355384980
E-ISBN 13 :	978-93-55384-98-0
Edition :	1
Pages :	242
Type of book :	Physical
Year :	2026
Language :	English
Publisher :	Khanna Publishing House
M.R.P :	Rs 498.00
Categories :	Emerging Technologies, Book Store
Condition Type :	New
Country Origin :	India

Khanna Publishing House

4C/4344, Ansari Road, Daryaganj, New Delhi-110002

Email: contact@khannabooks.com | Tel: 011-2324 44 47 - 48 | Mobile: +91-99109 09320

Product Description

1.To provide Knowledge on Probability distributions.

2. To study the algebra and its uses in solving Eigen value problems and single value decomposition problems.

3. To explain the concepts in number theory.

4. To predict a probability distribution over a set of classes given an observation of input, instead of simply outputting the most likely class to which the observation should belong.

5. The objective of a simple regression course is to teach students the fundamental concepts and techniques of regression analysis, focusing on models with one independent variable.

6. This includes understanding the assumption of regression, interpreting regression coefficients, assessing model fit, making predictions and using regression for inference and hypothesis testing.

7. Support Vector Machine Terminology.

8. Unsupervised Machine Learning and Divisive clustering.

9. EM Algorithm in Machine Learning (Expectation- Maximization).

10. Emphasizes Decision Trees with Pre -Pruning and Post -Pruning Techniques. Showcases Random Forest and its Applications.

11. Explore various types of perceptron and Neural Networks. Details Convolutional Neural Networks with Step- by- step Implementation.

12. Examines Recurrent Neural networks including their Types, Architectures and Applications.

Khanna Publishing House

4C/4344, Ansari Road, Daryaganj, New Delhi-110002

Email: contact@khannabooks.com | Tel: 011-2324 44 47 - 48 | Mobile: +91-99109 09320

13. Delves into K -Nearest Neighbors, Learning Locally Weighted Regression Learning and Radio Basis Function.

Khanna Publishing House

4C/4344, Ansari Road, Daryaganj, New Delhi-110002

Email: contact@khannabooks.com | Tel: 011-2324 44 47 - 48 | Mobile: +91-99109 09320

Table Of Contents

- Introduction.
- Probabilistic Learning- Classification.
- Linear Models for Regression.
- Classification: Decision Tree and Random Forest Models.
- Decision Tree.
- Neural Networks.
- Instance-Based Learning.
- Combing Classifiers.
- Support Vector Machine.
- Support Vector Machine.
- Unsupervised Learning.
- Index

Author

N. Bhaskar

Dr. N. Bhasker, Head & Assist. Professor, Dept. of Computer Science take pleasure to express my sincere thanks to my research supervisor Prof. MV Murthy, Former Head and BOS Chairman, Dept. of Mathematics and Computer Science, Osmania University, Hyderabad. It is my immense pleasure to associate with Prof. MV Ramana Murthy and his continuous guidance and task oriented mind setup to complete tis ask very soon. I am also thankful to Bhavan's Vivekananda College of Science Humanities and Commerce, Management, Principle-Dr. GSVRK Choudhary, Mrs. KVB Saraswathi Devi for given me the support and encouraging me to achieve goals successfully. I co-authored books on "Computer Fundamentals", Data Science with Machine Learning using R. Dr. K. L.

Khanna Publishing House

4C/4344, Ansari Road, Daryaganj, New Delhi-110002

Email: contact@khannabooks.com | Tel: 011-2324 44 47 - 48 | Mobile: +91-99109 09320

Vasundhara, HOD & Assoc. Professor, Dept. of Mathematics, Thank my Mentor Prof. M. V. Ramana Murthy (Former Head and BOS Chairman, Dept. of Mathematics and Computer Science, OU, Hyderabad) for his guidance, time, ideas and help. I am greatly indebted to Sri Krishna Rao (Correspondent, Stanley College of Engineering and Technology for Women, Hyderabad) for his support. It is imperative on my behalf to remember my behold Mother Late Smt. K. Varalakshmi and my Father-in-Law Late Sri. Yerasuri Gopala Krishna Murthy for their divine blessings. Recipient of "UTTAMA ADYAPIKA AWARD" 2022, " JYSTA ACH ARNA AWARD" 2024 and authored 16 papers in various National & International Journals, Co- authored books on " Engineering Mathematics-IV", "Data Science with Machine Learning using R". AICTE nominated expert for Data Analytics and having 6 Patents. Prf. Monalisha Pattnaik, currently serving as the Head of Department in the Department of Statistics, at Sambalpur University holds her D.Litt. in Supply Chain Management from Sambalpur University and her Ph.D. in Operations Research from Utkal University. Additionally, she holds the position of Deputy Director of the Research and Development Cell, at Sambalpur University. Apart from that, she actively conducts training programs, and seminars, and delivers talks at Faculty Development Programmes conducted by HRDC. In association with the mentioned, she is an avid researcher and has devoted her time to urging young minds into research. Her dedication to research in evident from her extensive list of publications in reputed international and national journals. Prof. Pattnaik boasts an impressive publication record with over 50 papers indexed in SCOPUS and WoS. In addition to her articles, Prof. Pattnaik as authored eight books, edited five books of international repute, and contributed numerous book chapters, solidifying her expertise in her fields of interest. As a highly regarded reviewer for prestigious publishers such as Elslevier, Taylor & Fracies, IEEE Access, and Springer, she actively conrtibutes to the academic community. She has an active role to play as a Member of the Editorial Board of reputed international journals. She is also associated with independent projects conducted by both Govt. of India and Govt. of Odisha. Presently, she is associated with Sambalpur University funded project bases on Predictive

Analytics. In her 16 years of teaching experience, she has covered topics such as Artificial Intelligence, Bibliometrics, Advanced Operations Research, Financial Security Analysis, Co-integration, ARIMA Modelling, Production and Operations Management, Security Analysis and Portfolio Management, Logistics and Supply Chain Management, Optimization Techniques, Research Methodology, and Advanced Multivariate Analysis. Her name has been included as an active reviewer in the online library of reputed international journals such as British Academy of Management and John Wilely & Sons Ltd. One of her article published in the journal Statistics Optimization and Information Computing has been included in the CAM-Digest Magazine, China. She has been getting invitation for conducting track chair session of international conferences in South Korea, Bangkok and France(Online). Recently, she has development a new algorithm of Transportation Problem and it is published in a reputed journal of Log Forum, Poland. She has published a case study which is available online in an academic website " studymode.com". Very recently, she has published three preprints on COVID-19 in the medRxiv org. USA, the preprint server health sciences, world reputed free online archive and distribution server for complete but preprints in the medical, clinical, and related health sciences. With a notable number of citations, an h-index of 14, and an i10-index of 26 from 2018 until the present, Prof. Pattnaik continues to be a prominent figure in the academic and research world, contributing her vast experience. Her work was acknowledged in the AD Scientific Index 2024, a prestigious "JYESTA ACHARYA AWARD"2021-2022, All India Level on 4th Dec organized by "Bharat Education Excellence Awards-2022" team of Skill, Swadesh, LACE, Brainovision, Cito Health Care & Lions Club, Hyderabad. She has also the recipient of the "Distinguished Woman Researcher in Operations Research", (OPERATIONS RESEARCH -2024 (Management)) by Venus International Women Award: Chennai, Tamil Nadu, India. Dr. G Mahesh Kumar holds the position of Assistant Professor, Department of Computer Science, Bhavan's Vivekananda College of Science, Humanities and Commerce, Sainikpuri, Secunderabad, Telangana, India. He has done his Ph.D. in Computer Science & Engineering from JNTU Hyderabad. He

has done his Masters in Information Systems, M. Tech (CSE) from Osmania University. He has qualified UGC-NET in Computer Applications. He has presented papers in national and international conference. He has published research papers international and national journals. He has published one patent. His research areas include Grid Computing, Cloud Computing, Internet of Things, Blockchain Technology, and Machine Learning.

K. L. Vasundhara

Dr. N. Bhasker, Head & Assist. Professor, Dept. of Computer Science take pleasure to express my sincere thanks to my research supervisor Prof. MV Murthy, Former Head and BOS Chairman, Dept. of Mathematics and Computer Science, Osmania University, Hyderabad. It is my immense pleasure to associate with Prof. MV Ramana Murthy and his continuous guidance and task oriented mind setup to complete tis ask very soon. I am also thankful to Bhavan's Vivekananda College of Science Humanities and Commerce, Management, Principle-Dr. GSVRK Choudhary, Mrs. KVB Saraswathi Devi for given me the support and encouraging me to achieve goals successfully. I co-authored books on "Computer Fundamentals", Data Science with Machine Learning using R. Dr. K. L. Vasundhara, HOD & Assoc. Professor, Dept. of Mathematics, Thank my Mentor Prof. M. V. Ramana Murthy (Former Head and BOS Chairman, Dept. of Mathematics and Computer Science, OU, Hyderabad) for his guidance, time, ideas and help. I am greatly indebted to Sri Krishna Rao (Correspondent, Stanley College of Engineering and Technology for Women, Hyderabad) for his support. It is imperative on my behalf to remember my behold Mother Late Smt. K. Varalakshmi and my Father-in-Law Late Sri. Yerasuri Gopala Krishna Murthy for their divine blessings. Recipient of "UTTAMA ADYAPIKA AWARD" 2022, " JYSTA ACH ARNA AWARD" 2024 and authored 16 papers in various National & International Journals, Co- authored books on " Engineering Mathematics-IV", "Data Science with Machine Learning using R". AICTE nominated expert for Data Analytics and having 6 Patents. Prf. Monalisha Pattnaik, currently serving as the Head of Department in the Department of Statistics, at Sambalpur University holds her D.Litt. in Supply Chain

Management from Sambalpur University and her Ph.D. in Operations Research from Utkal University. Additionally, she holds the position of Deputy Director of the Research and Development Cell, at Sambalpur University. Apart from that, she actively conducts training programs, and seminars, and delivers talks at Faculty Development Programmes conducted by HRDC. In association with the mentioned, she is an avid researcher and has devoted her time to urging young minds into research. Her dedication to research in evident from her extensive list of publications in reputed international and national journals. Prof. Pattnaik boasts an impressive publication record with over 50 papers indexed in SCOPUS and WoS. In addition to her articles, Prof. Pattnaik as authored eight books, edited five books of international repute, and contributed numerous book chapters, solidifying her expertise in her fields of interest. As a highly regarded reviewer for prestigious publishers such as Elslevier, Taylor & Fracies, IEEE Access, and Springer, she actively conrtibutes to the academic community. She has an active role to play as a Member of the Editorial Board of reputed international journals. She is also associated with independent projects conducted by both Govt. of India and Govt. of Odisha. Presently, she is associated with Sambalpur University funded project bases on Predictive Analytics. In her 16 years of teaching experience, she has covered topics such as Artificial Intelligence, Bibliometrics, Advanced Operations Research, Financial Security Analysis, Co-integration, ARIMA Modelling, Production and Operations Management, Security Analysis and Portfolio Management, Logistics and Supply Chain Management, Optimization Techniques, Research Methodology, and Advanced Multivariate Analysis. Her name has been included as an active reviewer in the online library of reputed international journals such as British Academy of Management and John Wilely & Sons Ltd. One of her article published in the journal Statistics Optimization and Information Computing has been included in the CAM-Digest Magazine, China. She has been getting invitation for conducting track chair session of international conferences in South Korea, Bangkok and France(Online). Recently, she has development a new algorithm of Transportation Problem and it is published in a reputed journal of Log Forum, Poland. She

has published a case study which is available online in an academic website " studymode.com". Very recently, she has published three preprints on COVID-19 in the medRxiv org. USA, the preprint server health sciences, world reputed free online archive and distribution server for complete but preprints in the medical, clinical, and related health sciences. With a notable number of citations, an h-index of 14, and an i10-index of 26 from 2018 until the present, Prof. Pattnaik continues to be a prominent figure in the academic and research world, contributing her vast experience. Her work was acknowledged in the AD Scientific Index 2024, a prestigious "JYESTA ACHARYA AWARD"2021-2022, All India Level on 4th Dec organized by "Bharat Education Excellence Awards-2022" team of Skill, Swadesh, LACE, Brainovision, Cito Health Care & Lions Club, Hyderabad. She has also the recipient of the "Distinguished Woman Researcher in Operations Research", (OPERATIONS RESEARCH -2024 (Management)) by Venus International Women Award: Chennai, Tamil Nadu, India. Dr. G Mahesh Kumar holds the position of Assistant Professor, Department of Computer Science, Bhavan's Vivekananda College of Science, Humanities and Commerce, Sainikpuri, Secunderabad, Telangana, India. He has done his Ph.D. in Computer Science & Engineering from JNTU Hyderabad. He has done his Masters in Information Systems, M. Tech (CSE) from Osmania University. He has qualified UGC-NET in Computer Applications. He has presented papers in national and international conference. He has published research papers international and national journals. He has published one patent. His research areas include Grid Computing, Cloud Computing, Internet of Things, Blockchain Technology, and Machine Learning.

Monalisha Pattnaik

Monalisha Pattnaik, currently serving as the Head of Department in the Department of Statistics, at Sambalpur University holds her D.Litt. in Supply Chain Management from Sambalpur University and her Ph.D. in Operations Research from Utkal University. Additionally, she holds the position of Deputy Director of the Research and Development Cell, at Sambalpur University. Apart from that, she actively conducts training programs,

and seminars, and delivers talks at Faculty Development Programmes conducted by HRDC. In association with the mentioned, she is an avid researcher and has devoted her time to urging young minds into research. Her dedication to research in evident from her extensive list of publications in reputed international and national journals. Prof. Pattnaik boasts an impressive publication record with over 50 papers indexed in SCOPUS and WoS. In addition to her articles, Prof. Pattnaik as authored eight books, edited five books of international repute, and contributed numerous book chapters, solidifying her expertise in her fields of interest. As a highly regarded reviewer for prestigious publishers such as Elslevier, Taylor & Fracies, IEEE Access, and Springer, she actively conrtibutes to the academic community. She has an active role to play as a Member of the Editorial Board of reputed international journals. She is also associated with independent projects conducted by both Govt. of India and Govt. of Odisha. Presently, she is associated with Sambalpur University funded project bases on Predictive Analytics. In her 16 years of teaching experience, she has covered topics such as Artificial Intelligence, Bibliometrics, Advanced Operations Research, Financial Security Analysis, Co-integration, ARIMA Modelling, Production and Operations Management, Security Analysis and Portfolio Management, Logistics and Supply Chain Management, Optimization Techniques, Research Methodology, and Advanced Multivariate Analysis. Her name has been included as an active reviewer in the online library of reputed international journals such as British Academy of Management and John Wilely & Sons Ltd. One of her article published in the journal Statistics Optimization and Information Computing has been included in the CAM-Digest Magazine, China. She has been getting invitation for conducting track chair session of international conferences in South Korea, Bangkok and France(Online). Recently, she has development a new algorithm of Transportation Problem and it is published in a reputed journal of Log Forum, Poland. She has published a case study which is available online in an academic website " studymode.com". Very recently, she has published three preprints on COVID-19 in the medRxiv org. USA, the preprint server health sciences, world reputed free online archive and distribution server for complete but preprints in the

medical, clinical, and related health sciences. With a notable number of citations, an h-index of 14, and an i10-index of 26 from 2018 until the present, Prof. Pattnaik continues to be a prominent figure in the academic and research world, contributing her vast experience. Her work was acknowledged in the AD Scientific Index 2024, a prestigious "JYESTA ACHARYA AWARD"2021-2022, All India Level on 4th Dec organized by "Bharat Education Excellence Awards-2022" team of Skill, Swadesh, LACE, Brainovision, Cito Health Care & Lions Club, Hyderabad. She has also the recipient of the "Distinguished Woman Researcher in Operations Research", (OPERATIONS RESEARCH -2024 (Management)) by Venus International Women Award: Chennai, Tamil Nadu, India. Dr. G

Mahesh Kumar

Mahesh Kumar holds the position of Assistant Professor, Department of Computer Science, Bhavan's Vivekananda College of Science, Humanities and Commerce, Sainikpuri, Secunderabad, Telangana, India. He has done his Ph.D. in Computer Science & Engineering from JNTU Hyderabad. He has done his Masters in Information Systems, M. Tech (CSE) from Osmania University. He has qualified UGC-NET in Computer Applications. He has presented papers in national and international conference. He has published research papers international and national journals. He has published one patent. His research areas include Grid Computing, Cloud Computing, Internet of Things, Blockchain Technology, and Machine Learning.

Khanna Publishing House

4C/4344, Ansari Road, Daryaganj, New Delhi-110002

Email: contact@khannabooks.com | Tel: 011-2324 44 47 - 48 | Mobile: +91-99109 09320