



Natural Language Processing for Software Engineering

Editor(s): Rajesh Kumar Chakrawarti, Ranjana Sikarwar, Sanjaya Kumar Sarangi, Samson Arun Raj, Albert Raj, Shweta Gupta, Krishnan Sakthidasan Sankaran, Romil Rawat

First published: 29 January 2025

Print ISBN: 9781394272433 | Online ISBN: 9781394272464 | DOI: 10.1002/9781394272464

© 2025 Scrivener Publishing LLC

About this book

Discover how *Natural Language Processing for Software Engineering* can transform your understanding of agile development, equipping you with essential tools and insights to enhance software quality and responsiveness in today's rapidly changing technological landscape.

[... Show all](#) ▾

Table of Contents

” [Export Citation\(s\)](#)

 **Free Access**

[Front Matter \(Pages: i-xvii\)](#)

[Summary](#) | [PDF](#) | [Request permissions](#)

CHAPTER 1

[Machine Learning and Artificial Intelligence for Detecting Cyber Security Threats in IoT Environment \(Pages: 1-14\)](#)

Ravindra Bhardwaj, Sreenivasulu Gogula, Bidisha Bhabani, K. Kanagalakshmi, Aparajita Mukherjee, D. Vetrihangam

[Summary](#) | [PDF](#) | [References](#) | [Request permissions](#)

CHAPTER 2

Frequent Pattern Mining Using Artificial Intelligence and Machine Learning (Pages: 15-28)

R. Deepika, Sreenivasulu Gogula, K. Kanagalakshmi, Anshu Mehta, S. J. Vivekanandan, D. Vetrihangam

[Summary](#) | [PDF](#) | [References](#) | [Request permissions](#)

CHAPTER 3

Classification and Detection of Prostate Cancer Using Machine Learning Techniques (Pages: 29-41)

D. Vetrihangam, Pramod Kumar, Shaik Munawar, Rituparna Biswas, Deependra Pandey, Amar Choudhary

[Summary](#) | [PDF](#) | [References](#) | [Request permissions](#)

CHAPTER 4

NLP-Based Spellchecker and Grammar Checker for Indic Languages (Pages: 43-70)

Brijesh Kumar Y. Panchal, Apurva Shah

[Summary](#) | [PDF](#) | [References](#) | [Request permissions](#)

CHAPTER 5

Identification of Gujarati Ghazal Chanda with Cross-Platform Application (Pages: 71-93)

Brijeshkumar Y. Panchal

[Summary](#) | [PDF](#) | [References](#) | [Request permissions](#)

CHAPTER 6

Cancer Classification and Detection Using Machine Learning Techniques (Pages: 95-111)

Syed Jahangir Badashah, Afaque Alam, Malik Jawarneh, Tejashree Tejpal Moharekar, Venkatesan Hariram, Galiveeti Poornima, Ashish Jain

[Summary](#) | [PDF](#) | [References](#) | [Request permissions](#)

CHAPTER 7

Text Mining Techniques and Natural Language Processing (Pages: 113-125)

Tzu-Chia Chen

[Summary](#) | [PDF](#) | [References](#) | [Request permissions](#)

CHAPTER 8

An Investigation of Techniques to Encounter Security Issues Related to Mobile Applications (Pages: 127-141)

Devabalan Pounraj, Pankaj Goel, Meenakshi, Domenic T. Sanchez, Parashuram Shankar Vadar, Rafael D. Sanchez, Malik Jawarneh

[Summary](#) | [PDF](#) | [References](#) | [Request permissions](#)

CHAPTER 9

Machine Learning for Sentiment Analysis Using Social Media Scrapped Data (Pages: 143-154)

Galiveeti Poornima, Meenakshi, Malik Jawarneh, A. Shobana, K.P. Yuvaraj, Urmila R. Pol, Tejashree Tejpal Moharekar

[Summary](#) | [PDF](#) | [References](#) | [Request permissions](#)

CHAPTER 10

Opinion Mining Using Classification Techniques on Electronic Media Data (Pages: 155-168)

Meenakshi

[Summary](#) | [PDF](#) | [References](#) | [Request permissions](#)

CHAPTER 11

Spam Content Filtering in Online Social Networks (Pages: 169-181)

Meenakshi

[Summary](#) | [PDF](#) | [References](#) | [Request permissions](#)

CHAPTER 12

An Investigation of Various Techniques to Improve Cyber Security (Pages: 183-192)

Shoaib Mohammad, Ramendra Pratap Singh, Rajiv Kumar, Kshitij Kumar Rai, Arti Sharma, Saloni Rathore

[Summary](#) | [PDF](#) | [References](#) | [Request permissions](#)

CHAPTER 13

Brain Tumor Classification and Detection Using Machine Learning by Analyzing MRI Images (Pages: 193-205)

Chandrima Sinha Roy, K. Parvathavarthini, M. Gomathi, Mrunal Pravinkumar Fatangare, D. Kishore, Anilkumar Suthar

[Summary](#) | [PDF](#) | [References](#) | [Request permissions](#)

CHAPTER 14

Optimized Machine Learning Techniques for Software Fault Prediction (Pages: 207-219)

Chetan Shelke, Ashwini Mandale (Jadhav), Shaik Anjimoon, V. Asha, Ginni Nijhawan, Joshuva Arockia Dhanraj

[Summary](#) | [PDF](#) | [References](#) | [Request permissions](#)

CHAPTER 15

Pancreatic Cancer Detection Using Machine Learning and Image Processing (Pages: 221-232)

Shashidhar Sonnad, Rejwan Bin Sulaiman, Amer Kareem, S. Shalini, D. Kishore, Jayasankar Narayanan

[Summary](#) | [PDF](#) | [References](#) | [Request permissions](#)

CHAPTER 16

An Investigation of Various Text Mining Techniques (Pages: 233-243)

Rajashree Gadhave, Anita Chaudhari, B. Ramesh, Vijilius Helena Raj, H. Pal Thethi, A. Ravitheja

[Summary](#) | [PDF](#) | [References](#) | [Request permissions](#)

CHAPTER 17

Automated Query Processing Using Natural Language Processing (Pages: 245-257)

Divyanshu Sinha, G. Ravivarman, B. Rajalakshmi, V. Alekhya, Rajeev Sobti, R. Udhayakumar

[Summary](#) | [PDF](#) | [References](#) | [Request permissions](#)

CHAPTER 18

Data Mining Techniques for Web Usage Mining (Pages: 259-270)

Navdeep Kumar Chopra, Chinnem Rama Mohan, Snehal Dipak Chaudhary, Manisha Kasar, Trupti Suryawanshi, Shikha Dubey

[Summary](#) | [PDF](#) | [References](#) | [Request permissions](#)

CHAPTER 19

Natural Language Processing Using Soft Computing (Pages: 271-282)

M. Rajkumar, Viswanathasarma Ch, R. J. Anandhi, D. Anandhasilambarasan, Om Prakash Yadav, Joshuva Arockia Dhanraj

[Summary](#) | [PDF](#) | [References](#) | [Request permissions](#)

CHAPTER 20

Sentiment Analysis Using Natural Language Processing (Pages: 283-294)

Brijesh Goswami, Nidhi Bhavsar, Soleman Awad Alzobidy, B. Lavanya, R. Udhayakumar, K. Rajapandian

[Summary](#) | [PDF](#) | [References](#) | [Request permissions](#)

CHAPTER 21

Web Data Mining: Exploring Hyperlinks, Contents, and Usage Data (Pages: 295-309)

C. V. Guru Rao, Nagendra Prasad Krishnam, Akula Rajitha, R. J. Anandhi, Atul Singla, Joshuva Arockia Dhanraj

[Summary](#) | [PDF](#) | [References](#) | [Request permissions](#)

CHAPTER 22

Intelligent Pattern Discovery Using Web Data Mining (Pages: 311-321)

Vidyapati Jha, Chinnem Rama Mohan, T. Sampath Kumar, R.J. Anandhi, Bhimasen Moharana, P. Pavankumar

[Summary](#) | [PDF](#) | [References](#) | [Request permissions](#)

CHAPTER 23

A Review of Security Features in Prominent Cloud Service Providers (Pages: 323-333)

Abhishek Mishra, Abhishek Sharma, Rajat Bhardwaj, Romil Rawat, T.M. Thiyagu, Hitesh Rawat

[Summary](#) | [PDF](#) | [References](#) | [Request permissions](#)

CHAPTER 24

Prioritization of Security Vulnerabilities under Cloud Infrastructure Using AHP (Pages: 335-355)

Abhishek Sharma, Umesh Kumar Singh

Summary | **PDF** | **References** | **Request permissions**

CHAPTER 25

Cloud Computing Security Through Detection & Mitigation of Zero-Day Attack Using Machine Learning Techniques (Pages: 357-388)

Abhishek Sharma, Umesh Kumar Singh

Summary | **PDF** | **References** | **Request permissions**

CHAPTER 26

Predicting Rumors Spread Using Textual and Social Context in Propagation Graph with Graph Neural Network (Pages: 389-402)

Siddharath Kumar Arjaria, Hardik Sachan, Satyam Dubey, Ayush Pandey, Mansi Gautam, Nikita Gupta, Abhishek Singh Rathore

Summary | **PDF** | **References** | **Request permissions**

CHAPTER 27

Implications, Opportunities, and Challenges of Blockchain in Natural Language Processing (Pages: 403-424)

Neha Agrawal, Balwinder Kaur Dhaliwal, Shilpa Sharma, Neha Yadav, Ranjana Sikarwar

Summary | **PDF** | **References** | **Request permissions**

CHAPTER 28

Emotion Detection Using Natural Language Processing by Text Classification (Pages: 425-442)

Jyoti Jayal, Vijay Kumar, Paramita Sarkar, Sudipta Kumar Dutta

Summary | **PDF** | **References** | **Request permissions**

CHAPTER 29

[< Back](#)

Chapter 3

Classification and Detection of Prostate Cancer Using Machine Learning Techniques

D. Vetrithangam, Pramod Kumar, Shaik Munawar, Rituparna Biswas, Deependra Pandey, Amar Choudhary

Book Editor(s): Rajesh Kumar Chakrawarti, Ranjana Sikarwar, Sanjaya Kumar Sarangi, Samson Arun Raj Albert Raj, Shweta Gupta, Krishnan Sakthidasan Sankaran, Romil Rawat

First published: 10 January 2025

<https://doi.org/10.1002/9781394272464.ch3>

Citations: 1

Summary

Carcinoma is a significant contributor to the death rates of individuals. Reducing the amount of time it takes to diagnose a patient is very necessary to improve their prognosis. Diagnostic imaging and other traditional methods are used by highly trained medical professionals to identify any telltale indicators that may be present in the bodies of their patients. In spite of the abundance of medical imaging data, manual diagnosis may still be subjective and time-consuming due to the fact that people's perceptions differ so much from one another. One of the primary reasons for the variability is the collecting of data from medical imaging. A proper diagnosis may be more difficult to get as a result of this. When performing activities such as machine learning and the processing of complex pictures, it is important to make use of the most advanced computational power available. Ever since the 1980s, there has been a persistent effort to develop a computer-aided diagnostic system that has the potential to help in the early diagnosis of a wide variety of malignancies. According to the most recent estimates, around one-seventh of men will be diagnosed with prostate cancer at some point in their life. This illness claims the lives of so many men every year, and it is unbearable that the number of men who are diagnosed with prostate cancer continues to climb. It is a tragedy that this number continues to rise. A powerful diagnostic system that is capable of managing high-resolution, multi-dimensional MRI images is an absolute need, in addition to computer-aided design (CAD) software. In the present moment, I am focusing my attention on a project that will make it easier for us to achieve our shared goals. Scientists are now studying methods to improve the speed, accuracy, and precision of computer-aided design (CAD) technology since it has been shown to be valuable. CAD technology has been demonstrated to be effective, as shown by the evidence. The development of techniques for the diagnosis and classification of prostate cancer via the