1.	Record Nr.	UNINA9911034958103321
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	Titolo	Computational Cytology : Advancements and Applications with Artificial Intelligence / / by Pranab Dey
	Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2025
	ISBN	9789819532728
		9789819532711
	Edizione	[1st ed. 2025.]
	Descrizione fisica	1 online resource (354 pages)
	Collana	Medicine Series
	Disciplina	616.07
	Soggetti	Pathology
		Biomathematics
		Artificial intelligence
		Bioinformatics
		Biomedical engineering
		Mathematical and Computational Biology
		Artificial Intelligence
		Medical and Health Technologies
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Nota di contenuto	Section I: Computational Integration in Cytology -- Chapter 1. Introduction to Computational Cytology -- Chapter 2. Digital Cytology: The Cornerstone of Computational Cytology -- Chapter 3. Digital Workflow in Cytology -- Section II: Major Components of Computational Cytology -- Chapter 4. Data acquisition and preparation in Computational Cytology -- Chapter 5. Overview of Artificial neural network -- Section III: Computational Techniques and Tools -- Chapter 6. Image Processing for Cytology -- Chapter 7. Deep Learning in Computational Cytology -- Chapter 8. Natural Language Processing in Cytology Reports -- Section IV: Applications of Computational Cytology -- Chapter 9. Diagnosis of Cancer -- Chapter 10. Molecular Data Interpretation by artificial intelligence -- Chapter 11. Automation in Cytology Laboratory -- Chapter 12. Personalized Medicine and Computational Cytology -- Section V: Advanced Topics and Emerging Trends -- Chapter 13. Multi-modal Data Fusion by combining imaging,

clinical and molecular data -- Chapter 14. Data storage, security and Ethical issues in Computational Cytology -- Chapter 15. Future Directions, and challenges in Computational Cytology -- Section VI: Hands-On and Practical Applications -- Chapter 16. A practical guide to build the Computational Model -- Chapter 17. Software and Tools for Computational Cytology -- Chapter 18. Data management, data Sharing in Computational Cytology -- Section VII: Challenges and Future Directions -- Chapter 20. Current Limitations and solution in Computational Cytology.

Sommario/riassunto	This book provides information on how to integrate modern computational tools into traditional cytology, addressing the need to analyze digital images, molecular data, proteomic data, and clinical information. Divided into 21 chapters, it discusses computational techniques, including data pre-processing, building a neural network model, and implementing the model. Further chapters cover the basics of the digitalization of cytological images, handling multiple modes of data, artificial intelligence for cell classification, and applications of computational cytology. Ethical and practical challenges, as well as the integration of artificial intelligence in cytology workflows, are also discussed. The book is supplemented with ample illustrations and tables to aid decision-making. The book serves as a practical guide for pathologists, researchers, professionals in bioinformatics, and computer scientists, helping them understand how to integrate digital and molecular data into cytology for research, diagnosis, cancer screening, personalized management, and drug discovery.