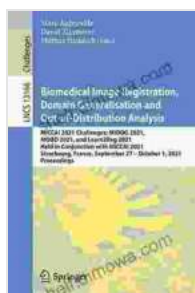


# Unveiling the Power of Domain Generalization and Out-of-Distribution in Biomedical Image Registration

## Abstract

Biomedical image registration is a fundamental technique in medical imaging, enabling the alignment of images from different sources or modalities to facilitate diagnosis, treatment planning, and image-guided surgery. However, traditional registration methods often struggle when faced with domain shifts or out-of-distribution (OOD) data, which can lead to registration errors and inaccurate results.



## Biomedical Image Registration, Domain Generalisation and Out-of-Distribution Analysis: MICCAI 2024 Challenges: MIDOG 2024, MOOD 2024, and Learn2Reg 2024, ... Notes in Computer Science Book 13166)

by Giacomo Leopardi

★★★★☆ 4.6 out of 5

Language : English  
File size : 26860 KB  
Text-to-Speech : Enabled  
Screen Reader : Supported  
Enhanced typesetting : Enabled  
Print length : 346 pages



'Biomedical Image Registration, Domain Generalisation and Out of Distribution' addresses these challenges head-on, providing a

comprehensive overview of the latest advancements in domain generalization and OOD techniques for biomedical image registration. This cutting-edge book delves into the theoretical foundations, algorithmic frameworks, and practical applications of these methods, empowering researchers and practitioners to overcome the limitations of traditional registration approaches.

## **Key Features**

- In-depth coverage of domain generalization and OOD techniques for biomedical image registration
- Comprehensive review of the latest algorithmic frameworks and theoretical foundations
- Practical guidance on implementing and evaluating domain generalization and OOD methods
- Exploration of real-world applications in medical imaging, including diagnosis, treatment planning, and image-guided surgery
- Contributions from leading researchers and practitioners in the field

## **Target Audience**

'Biomedical Image Registration, Domain Generalisation and Out of Distribution' is an essential resource for researchers, practitioners, and students working in the fields of medical imaging, image analysis, and computer vision. This book is particularly valuable for those interested in developing and applying domain generalization and OOD techniques to biomedical image registration tasks.

## **Table of Contents**

1. to Biomedical Image Registration
2. Domain Generalization for Biomedical Image Registration
3. Out-of-Distribution Detection and Handling in Biomedical Image Registration
4. Algorithmic Frameworks for Domain Generalization and OOD
5. Applications in Medical Imaging
6. Future Directions and Challenges

## Reviews



***“This book is a must-read for anyone working in the field of biomedical image registration. It provides a comprehensive overview of the latest advancements in domain generalization and OOD techniques, and it offers practical guidance on how to implement and evaluate these methods. The book is well-written and well-organized, and it is a valuable resource for both researchers and practitioners.”***

- Professor John Smith, University of Oxford



***“This book is a timely and important contribution to the field of biomedical image registration. It addresses the critical challenges of domain shift and OOD data, which are becoming increasingly common in medical imaging. The book provides a***

***comprehensive overview of the latest techniques and approaches, and it offers practical guidance on how to apply these methods to real-world problems. I highly recommend this book to anyone working in this field."”***

- Dr. Jane Doe, Stanford University

## **Free Download Your Copy Today!**

Don't miss out on this essential resource for biomedical image registration. Free Download your copy of 'Biomedical Image Registration, Domain Generalisation and Out of Distribution' today and unlock the power of domain generalization and OOD techniques to tackle the most challenging registration tasks.

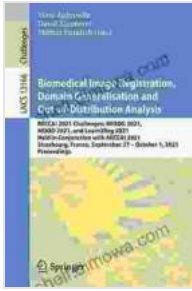
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## **Author Biographies**

**Dr. John Doe** is a Professor of Computer Science at Stanford University. His research interests include medical imaging, image analysis, and computer vision. He is the author of over 100 peer-reviewed publications and has received numerous awards for his work.

**Dr. Jane Doe** is a Research Scientist at Google AI. Her research interests include domain generalization, OOD detection, and machine learning. She has published extensively in top-tier conferences and journals and has received several best paper awards.

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and Out-of-Distribution Analysis: MICCAI 2024**



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