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10 Resources for Biomedical Image Analysis Training

Zeeks – Art for Geeks Ltd

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Welcome to our resources for biomedical image analysis training. In the rapidly evolving field of biomedical image analysis, staying updated with the latest techniques and tools is crucial.

Whether you're a student, researcher, or professional in the healthcare industry, these curated resources will equip you with the knowledge and skills you need to excel in analysing biomedical images. These resources will enhance your expertise and career in biomedical image analysis.

Want to learn more?
Explore our courses!

1. **NIH ImageJ/Fiji at Fiji.sc:** The National Institutes of Health (NIH) provides ImageJ/Fiji, which is a powerful image processing and analysis software. With an extensive library of plugins and macros, ImageJ is an essential tool for researchers dealing with biomedical images. Access tutorials, guides, and a supportive user community for practical learning.

2. **Coursera/Udacity/Edx – Free Courses:** These online platforms offer various courses covering the fundamentals of image processing and analysis, including biomedical applications. Learn about image enhancement, filtering, segmentation, and more. While there might be a fee for a certificate, audit the course for free and access the materials.

3. **Open Access Image Repositories:** Explore publicly available image datasets from repositories like The Cancer Imaging Archive (TCIA), the Medical Imaging Interaction Toolkit (MITK), or on Zenodo. These datasets provide a practical environment to practice and refine your image analysis skills.

4. **Fiji (ImageJ) Workshops:** Fiji, is an image processing package based on ImageJ. Not only are there many free resources available, there are also a lot of workshops and webinars to help users understand its features (for example, look up the "I2K Conference"). These resources are valuable for beginners and experienced researchers seeking to optimize their image analysis workflows.

5. **Image Analysis Tools from CellProfiler:** CellProfiler is a widely used software for analyzing and quantifying cellular images. Their website hosts tutorials, examples, and manuals that guide you through the process of analyzing diverse types of biomedical images.

6. **Machine Learning:** Machine Learning is a rapidly evolving field, we found the following resources great to start of your image analysis machine learning journey: Udacity courses on: ML Foundations, PyTorch, Tensorflow; Matlab Academy Mathworks courses on machine learning; YouTube: Nicholas Renotte, DigitalSreeni.

7. **GitHub Repositories with Open-Source Code:** Explore GitHub repositories that host open-source code for various image analysis algorithms. These repositories provide a hands-on learning experience, allowing you to experiment with code implementations and learn through practical examples

8. **Standalone Biomedical Image Analysis Courses (Python):**
   - Course by Jonas Hartmann: https://buff.ly/3XvXrrW
   - Course by Robert Haase: https://buff.ly/3CVWRu4

9. **Professional Conferences, Symposiums, and Hackathons:** Participating in industry-specific conferences, symposiums, and hackathons dedicated to biomedical image analysis can be a valuable investment. These events provide opportunities to learn from experts, network with fellow professionals, and gain insights into cutting-edge techniques and technologies.

10. **Expert Courses and Data-Specific Advice:** Consider enrolling in expert-led courses or workshops that are tailored to specific types of biomedical data and analysis challenges. These courses are often conducted by seasoned professionals who specialize in particular areas of biomedical image analysis, such as microscopy, radiology, or neuroimaging. By focusing on data-specific advice and real-world applications, you will gain practical insights and techniques directly applicable to your field of interest.

    For example, at Zeeks, we specialize in biomedical image analysis of 3D fluorescence microscopy data (for example, confocal, AiryScan, and light-sheet). However, we also work with histopathology and engineering data.

Conclusion

These 10 resources for biomedical image analysis training will empower you to be data-confident and extract the most meaningful data from your biomedical images. Whether novice or expert, if Zeeks can help you on your way, please do not hesitate to contact us.

Ready to take the next step?

Explore our courses!