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Ipek Oguz, Jack Noble, Xiaoxiao Li, Martin Styner, Christian Baumgartner, Mirabela Rusu, Tobias Heimann, Despina Kontos, Bennett Landman, Benoit Dawant

Preface

This volume contains the Proceedings of the Sixth International Conference on Medical Imaging with Deep Learning – MIDL 2023. The conference was held between July 10-12, 2023, at Vanderbilt University in Nashville, Tennessee, USA, organized by co-chairs Bennett Landman, Benoit Dawant, and Ipek Oguz from Vanderbilt University. The scientific program was organized by a team of program chairs from Vanderbilt University, the University of British Columbia, the University of North Carolina at Chapel Hill, the University of Tübingen, Stanford University, Siemens Healthineers, and the University of Pennsylvania.

Similar to the previous editions of the conference, MIDL 2023 had two submission tracks: full papers and short papers. 181 valid full papers and 124 short papers underwent a transparent review process through the OpenReview system. The full paper track review process was double-blind, while the short paper track was single-blind, although anonymous submissions were allowed. The papers and reviews are publicly available through OpenReview, but authors of rejected papers were allowed to remove their submissions.

The full paper submissions underwent a rigorous double-blind review process that involved a team of 8 Program Chairs (PC), 40 Area Chairs (AC), and 188 reviewers. After desk rejection of incomplete submissions by PC, each of the remaining 181 papers received at least 3 reviews as well as a meta-review by an AC, and the authors were allowed to respond to the reviews during a rebuttal period. The PC then discussed each borderline paper over a two-day virtual meeting to make the accept/reject decisions and to select oral presentations. The acceptance rate of the full paper track was 61.8% (112/181), with 28 oral presentations and 84 posters. 8 papers were selected by a committee of 5 PC members and invited to submit an extended version for a special issue for the Medical Image Analysis journal.

The short paper submissions underwent a more streamlined single-blind review process involving a team of the same 8 PCs and 40 reviewers, most of whom had also served as AC for the full paper track. Of the 124 submissions, 88 were accepted as posters.

We want to thank the Area Chairs and reviewers for their careful reviews and constructive feedback to the authors, which made it possible to create this robust technical program. We are grateful to our sponsors for their financial support of the conference. Finally, we would also like to thank the OpenReview team for their tech support throughout the entire process.

January 25, 2024

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Ipek Oguz

Vanderbilt University, Nashville, Tennessee, USA

Jack Noble

Vanderbilt University, Nashville, Tennessee, USA

Xiaoxiao Li

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Martin Styner

Univ. of North Carolina at Chapel Hill, Chapel Hill, North Carolina, USA

Christian Baumgartner

University of Tübingen, Tübingen, Germany

Mirabela Rusu

Stanford University, Stanford, California, USA

Tobias Heimann

Siemens Healthineers, Germany

Despina Kontos

University of Pennsylvania, Philadelphia, Pennsylvania, USA

Bennett Landman

Vanderbilt University, Nashville, Tennessee, USA

Benoit Dawant

Vanderbilt University, Nashville, Tennessee, USA

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Trainable Prototype Enhanced Multiple Instance Learning for Whole Slide Image Classification L. Yang, D. Mehta, S. Liu, D. Mahapatra, A. D. Ieva, Z. Ge, PMLR 227:1558–1568, p 1558

Ultra-NeRF: Neural Radiance Fields for Ultrasound Imaging M. Wysocki, M. F. Azampour, C. Eilers, B. Busam, M. Salehi, N. Navab, PMLR 227:1569–1588, 2023 p 1569

Frozen Language Model Helps ECG Zero-Shot Learning J. Li, C. Liu, S. Cheng, R. Arcucci, S. Hong, PMLR 227:1589–1602, 2023 p 1589

An end-to-end framework for diagnosing COVID-19 pneumonia via Parallel Recursive MLP module and Bi-LTSM correlation Y. Liu, W. Xing, M. Zhao, M. LIN, PMLR 227:1603–1612, 2023 p 1603

FUSQA: Fetal Ultrasound Segmentation Quality Assessment S. Cengiz, I. Almakky, M. Yaqub, PMLR 227:1613–1626, 2023 p 1613

SegPrompt: Using Segmentation Map as a Better Prompt to Finetune Deep Models for Kidney Stone Classification W. Zhu, R. Zhou, Y. Yao, T. D. Campbell, R. K. Jain, J. Luo, PMLR 227:1627–1637, 2023 p 1627

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Zero-Shot Self-Supervised Joint Temporal Image and Sensitivity Map Reconstruction via Linear Latent Space M. Zhang, J. Xu, Y. Arefeen, E. Adalsteinsson, PMLR 227:1660–1672, p. 1660

On Sensitivity and Robustness of Normalization Schemes to Input Distribution Shifts in Automatic MR Image Diagnosis D. Madaan, D. Sodickson, K. Cho, S. Chopra, PMLR 227:1673–1697, 2023 p 1673

Selective experience replay compression using coresets for lifelong deep reinforcement learning in medical imaging G. Zheng, S. Zhou, V. Braverman, M. A. Jacobs, V. S. Parekh, PMLR 227:1698–1711, 2023 p 1698

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One-Class SVM on siamese neural network latent space for Unsupervised Anomaly Detection on brain MRI White Matter Hyperintensities N. Pinon, R. Trombetta, C. Lartizien, PMLR 227:1748–1762, 2023 p 1748

MProtoNet: A Case-Based Interpretable Model for Brain Tumor Classification with 3D Multi-parametric Magnetic Resonance Imaging Y. Wei, R. Tam, X. Tang, PMLR 227:1763–1777, 2023 p 1763

A deep learning method trained on synthetic data for digital breast tomosynthesis reconstruction A. Quillent, V. J. Bismuth, I. Bloch, C. Kervazo, S. Ladjal, PMLR 227:1778–1790, 2023

Exploring Image Augmentations for Siamese Representation Learning with Chest X-Rays R. V. der Sluijs, N. Bhaskhar, D. Rubin, C. Langlotz, A. S. Chaudhari, PMLR 227:1791–1814, 2023 p 1791

A comparison of self-supervised pretraining approaches for predicting disease risk from chest radiograph images Y. Chen, M. T. Lu, V. K. Raghu, PMLR 227:1815–1847, 2023p 1815

nnUNet meets pathology: Bridging the gap for application to whole slide images and computational biomarkers J. Spronck, T. Gelton, L. van Eekelen, J. Bogaerts, L. Tessier, M. van Rijthoven, L. van der Woude, M. van den Heuvel, W. Theelen, J. van der Laak, F. Ciompi, PMLR 227:1848–1863, 2023

Estimating Uncertainty in PET Image Reconstruction via Deep Posterior Sampling T. Vlašić, T. Matulić, D. Seršić, PMLR 227:1864–1883, 2023 p 1864

GeoLS: Geodesic Label Smoothing for Image Segmentation S. A. Vasudeva, J. Dolz, H. Lombaert, PMLR 227:1884–1894, 2023

Domain Adaptation using Silver Standard Masks for Lateral Ventricle Segmentation in FLAIR MRI O. Crystal, A. Khademi, A. R. Moody, P. J. Maralani, S. E. Black, PMLR 227:1895–1909, 2023 p 1895

Image2SSM: Localization-aware Deep Learning Framework for Statistical Shape Modeling Directly from Images J. Ukey, S. Elhabian, PMLR 227:1910–1922, 2023 p 1910

Effect of Intensity Standardization on Deep Learning for WML Segmentation in Multi-Centre FLAIR MRI A. Ghazvanchahi, P. J. Maralani, A. R. Moody, A. Khademi, PMLR 227:1923–1940, 2023 p 1923