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Diabetic Foot Ulcers Grand Challenge

Second Challenge, DFUC 2021
Held in Conjunction with MICCAI 2021
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Proceedings

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Preface

This is the first proceedings of Diabetic Foot Ulcer (DFU) research focusing on the DFU Challenge 2021 (DFUC 2021), organized in conjunction with the 24th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2021). Due to the COVID-19 pandemic, the challenge event was conducted online on September 27, 2021. We received 500 submissions for the validation stage and 28 submissions for the testing stage.

The overall goal of the DFU challenge is to solicit original works in DFU and to promote interactions between researchers and interdisciplinary (national and international) collaborators. It aims to motivate the health care domain to share datasets, participate in ground truth annotation, and enable data-innovation in computer algorithm development. In the longer term, it will lead to improved patient care and reduce the strain on overburdened healthcare systems. With joint efforts from the lead scientists of the UK, US, India, and New Zealand, these inaugural challenges were well-received, with the first DFU challenge successfully conducted in 2020 for the task of DFU detection. The task of DFUC 2021 related to multi-class classification, for the purpose of supporting research towards more advanced methods of DFU pathology recognition.

This proceedings provides an overview of the development of DFU datasets, gathers methodological papers of classification methods evaluated at the DFUC 2021 along with a DFUC 2021 summary paper from the organizers, and considers post challenge papers. Apart from the Overview and Summary paper, all papers were reviewed by three reviewers and assigned to a meta-reviewer. For DFUC 2021 papers a single-blind review process was used, accepting only the top five entries due to the proceedings call for papers deadline. For the post challenge papers, a double-blind review process was completed with a 25% acceptance rate. In total we received four post challenge papers with only one accepted. The organizers were not listed as authors for the challenge and post challenge papers.

As a concluding note, the organizers of the challenge continue to support the research community by providing a live leaderboard to test the performance of their algorithms. To date, there are 350 submissions on the live leaderboard, with approximately 10 submissions per day. Researchers who are interested in the challenge can request the datasets and evaluate the task on our grand challenge websites (DFU detection task and DFU classification task). The organizers will conduct DFUC 2022 in conjunction with MICCAI 2022, with the task focusing on DFU segmentation.

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