

# Medical & Robots Lab (MRL) of Nankai University

## Kidney Ultrasound Dataset (KUS): Release Agreement

### 1. Introduction:

The goal of the Kidney Ultrasound Dataset (KUS) is to provide the images and ground truth for the automatic interpretation and analysis of kidney ultrasound images. Medical & Robots Lab (MRL) of Nankai University has copyright on the data and is the principal distributor of KUS. Nankai University, Fourth Medical Center of Chinese PLA General Hospital and Civil Aviation General Hospital are involved in an ongoing effort to develop this dataset to aid research efforts in the general area of developing, testing and evaluating algorithms for kidney ultrasound images analysis.

### 2. Release of the dataset:

To advance the state-of-the-art dataset in Kidney Ultrasound, this dataset is made available to the research community. The dataset includes 200 clinical kidney ultrasound images from the patients in the Fourth Medical Center of the PLA General Hospital and the Civil Aviation General Hospital. These images are from two ultrasound devices (Philips and Esaote), and each device has 100 images. These renal ultrasound images were resized to have the same size  $512 \times 512$ . All other uses of the dataset will be considered on written application on the case-by-case basis. The Fourth Medical Center of Chinese PLA General Hospital and Civil Aviation General Hospital has authorised the principal authors (Dr. Gongping Chen and Dr. Yu Dai) as the contact persons to release the dataset. To receive access to the dataset, for non-commercial research and other branches of related research, you must sign this document agreeing to the conditions and restrictions listed below:

### Consent:

I/We agree to the following conditions and restrictions of access and use of the KUS:

- 1. Redistribution:** Without prior written approval from the Principal Authors, the KUS, will not be further distributed, published, copied, or disseminated in any way or form whatsoever, in whole or in part, whether for profit or not. This includes further distributing, copying or disseminating to a different facility, department or organisational unit within this university, organisation, or company.
- 2. Modification and Commercial Use:** Without prior written approval from the Principal Authors, the KUS, in whole or in part, may not be modified or used for commercial purposes.
- 3. Requests for the KUS:** All requests for the KUS will be forwarded to the Principal Author(s).
- 4. Publication Requirements:** Where permitted to publish by agreement of the Principal Authors, publication will be restricted to paper, web-based data and image data, for scientific purposes only, in summary forms.
- 5. Citation/Reference:** All documents and papers that report on research that uses the KUS will acknowledge the use of the dataset by including an appropriate citation to the following:

- [1] Chen Gongping, Lei Zhao, Yin Xiaotao, Cui Liang, Dai Yu. "BAAF: A Benchmark Attention Adaptive Framework for Medical Ultrasound Image Segmentation Tasks." *arXiv preprint arXiv:2310.00919* (2023). <https://doi.org/10.48550/arXiv.2310.00919>
- [2] Chen Gongping, Li Lei, Dai Yu, Zhang Jianxun. *NU-net: Rethinking the unpretentious U-net for medical ultrasound image segmentation*. *Pattern Recognition*, 2023. <https://doi.org/10.1016/j.patcog.2023.109728>
- [3] Chen Gongping, Liu Yuming, Qian Jiang, Zhang Jianxun, Cui Liang, Dai Yu. *DSEU-net: A novel deep supervision SEU-net for medical ultrasound image segmentation [J]*. *Expert Systems with Applications*. 2023. <https://doi.org/10.1016/j.eswa.2023.119939>
- [4] Chen Gongping, Dai Yu, Zhang Jianxun, Cui Liang. *Asymmetric U-shaped network with hybrid attention mechanism for kidney*

- ultrasound images segmentation [J]. *Expert Systems with Applications*. 2023. <https://doi.org/10.1016/j.eswa.2022.118847>
- [5] Chen Gongping, Dai Yu, Li Rui, Zhao Yu, Cui Liang. SDFNet: Automatic segmentation of kidney ultrasound images using multi-scale low-level structural feature [J]. *Expert Systems with Applications*. 2021. <http://dx.doi.org/10.1016/j.eswa.2021.115619>
- [6] Chen Gongping, Dai Yu, Zhang Jianxun, Yin Xiaotao, Cui Liang. MBANet: Multi-branch aware network for kidney ultrasound images segmentation [J]. *Computers in Biology and Medicine*, 2022. <https://doi.org/10.1016/j.combiomed.2021.105140>
- [7] Chen Gongping, Dai Yu, Zhang Jianxun, Yin Xiaotao, Cui Liang. A novel convolutional neural network for kidney ultrasound images segmentation [J]. *Computer Methods and Programs in Biomedicine*, 2022. <https://doi.org/10.1016/j.cmpb.2022.106712>

**6. Publication:** A copy of all reports and papers that are for public or general release that use the KUS should be forwarded immediately upon release or publication to the Principal Authors.

**7. No Warranty:** THE PROVIDER OF THE DATA MAKES NO REPRESENTATIONS AND EXTENDS NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED. THERE ARE NO EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR THAT THE USE OF THE MATERIAL WILL NOT INFRINGE ANY PATENT, COPYRIGHT, TRADE- MARK, OR OTHER PROPRIETARY RIGHTS.

**Signed:**

**Name (please print):**

**Date:**

**Email:**

**Organization:**

**Address:**

Please email a scanned signed copy to the KUS Principal Authors - Gongping Chen at [cgp110@mail.nankai.edu.cn](mailto:cgp110@mail.nankai.edu.cn) .