墙上挂着一幅画

中度可信度描述已自动生成

**Supplementary figure 1:** Graphs and schematic illustrations of employing deep-learning models. **a.** Perform the deep learning model on the PAS slices (all glomeruli were identified). The cyan parts are the identified areas. **b.** Perform the deep learning model on the slices (all renal nuclei were identified). The magenta parts are the identified areas. **c.** Perform measurement in the region of interest (ROI) for the identified glomerulus and nucleus. The glomerular model is used to provide a regional ROI for counting; the nucleus model is used to count all nuclei within the ROI.

图形用户界面

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**Supplementary figure 2: The training information of CNN model.** a. The IoU curve and training loss changes of glomeruli recognition with the training progress.

**b.** The IoU curve and training loss changes of nuclei recognition with the training progress.

图表, 折线图

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**Supplementary figure 3:** The features extraction consistency analysis. **a.** Concordance between perimeters estimated by CNN model and the pathologist. **b.** Bland-Altman plot for perimeter estimation. **c.** Concordance between the number of objects estimated by CNN model and the pathologist. **d.** Bland-Altman plot for the number of objects estimation.

**Supplementary table 1. The list of abbreviations of all significant features.**

|  |  |
| --- | --- |
| result | abbreviation |
| mean1 counts |  |
| mean2 perimeter |  |
| mean3 Convex Perimeter | PC |
| mean4 mean gray level | MGL |
| mean5 shape factor | SF |
| mean6 convex curvature | CC |
| mean7 length-width ratio | LWR |
| mean8 Sphericity |  |
| mean9 Elongation |  |
| mean10 maximum inner width | MAXID |
| mean11 mean internal diameter | MID |
| mean12 minimum internal diameter | MINID |
| mean13 minimum internal equivalent width | MINIEW |
| mean14 mean internal equivalent width | MIEW |
| mean15 minimum distance to the center | MINDTC |
| mean16 maximum distance to the center | MAXDTC |
| mean17 mean distance to the center | MDTC |
| mean18 maximum radius | MAXR |
| mean19 mean radius | MR |
| mean20 minimum diameter (with an external caliper) | MINDEC |
| mean21 maximum diameter (with an external caliper) | MAXDEC |
| mean22 mean diameter (with an external caliper) | MDEC |
| mean23 minimum width | MINW |
| mean24 maximum width | MAXW |
| mean25 mean width | MW |
| mean26 maximum diameter | MAXD |
| mean27 mean diameter | MD |
| mean28 maximum equivalent width | MAXEW |
| mean29 mean equivalent width | MEW |
| mean30 mean convex curvature | MCC |
| mean31 number of classified objects | NCO |
| mean32 mean perimeter | MP |
| mean33 number of objects | NO |
| mean34 mean shape factor | MSF |
| mean35 area of region of interest | AROI |