

Supplementary materials

Blood quality evaluation via on-chip classification of cell morphology using deep learning algorithm

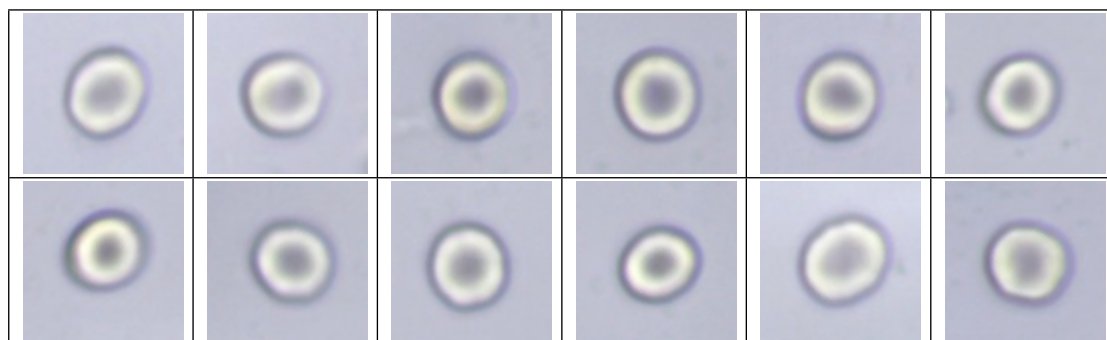
Yuping Yang,^{a,b} Hong He,^a Junju Wang,^a Li Chen,^a Yi Xu,^a Chuang Ge^{c,*} and Shunbo Li^{a,*}

a. Key Laboratory of Optoelectronic Technology and Systems, Ministry of Education & Key Disciplines Laboratory of Novel Micro-Nano Devices and System Technology, College of Optoelectronic Engineering, Chongqing University, Chongqing 400044, China. Email: shunbo.li@cqu.edu.cn.

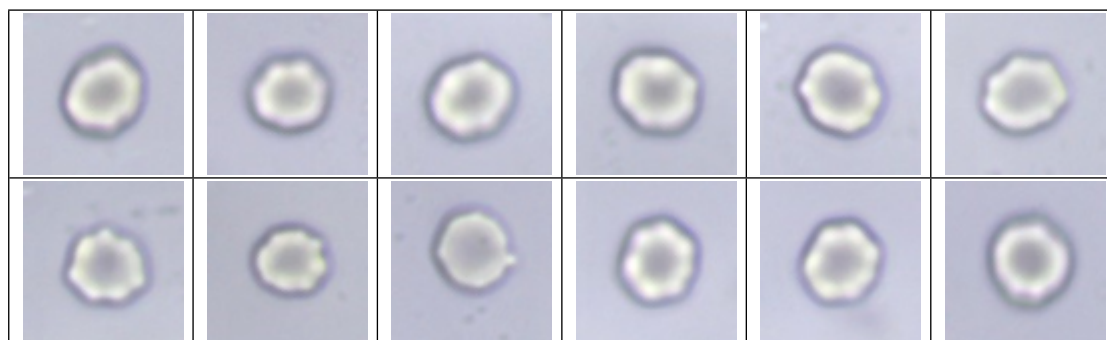
b. Chongqing College of Electronic Engineering, Chongqing 401331, China.

c. Chongqing Key Laboratory of Translational Research for Cancer Metastasis and Individualized Treatment, Chongqing University Cancer Hospital, Chongqing 400030, China. Email: gechuang1115@163.com.

SDC

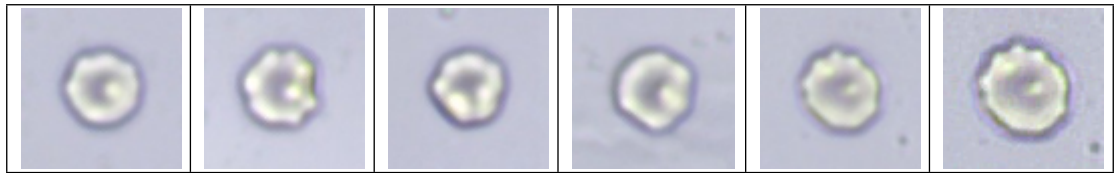


CDC

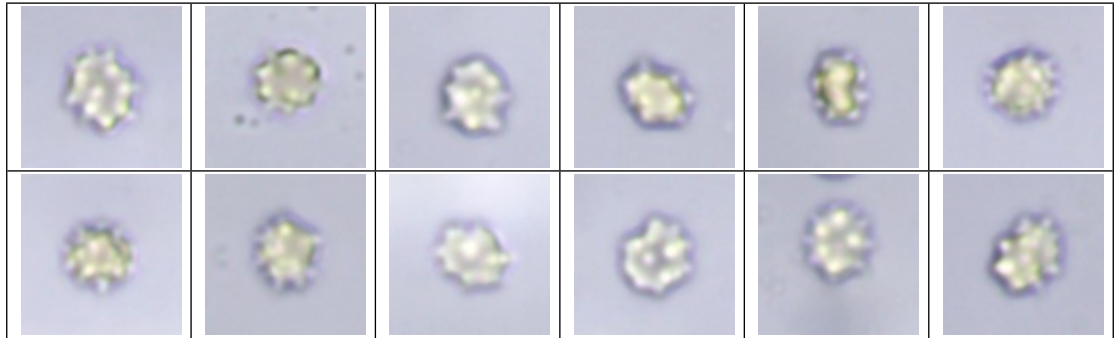


CDD

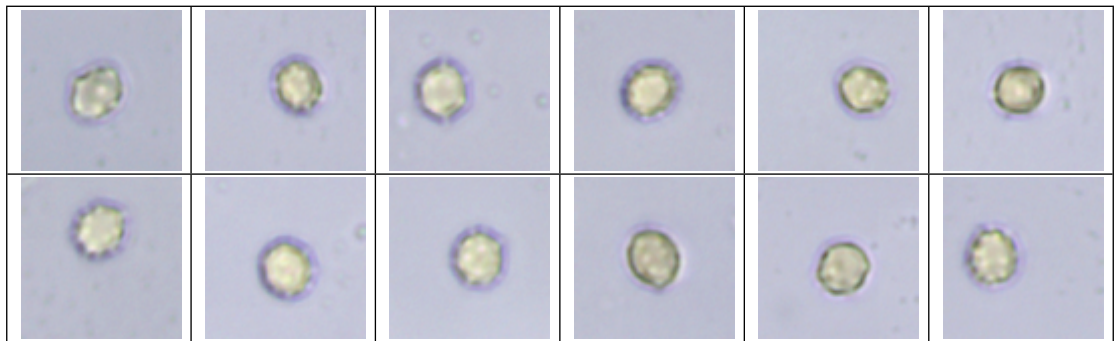




CSD



CSE



SSE

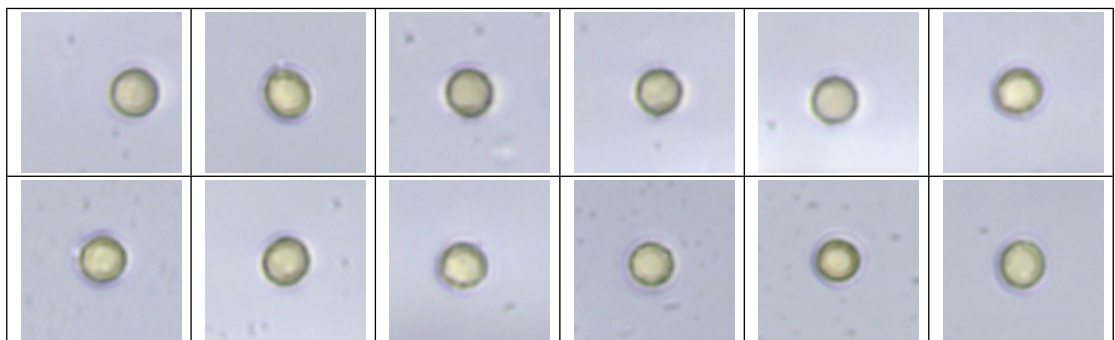


Fig. S1 Typical images of RBCs with different morphologies.

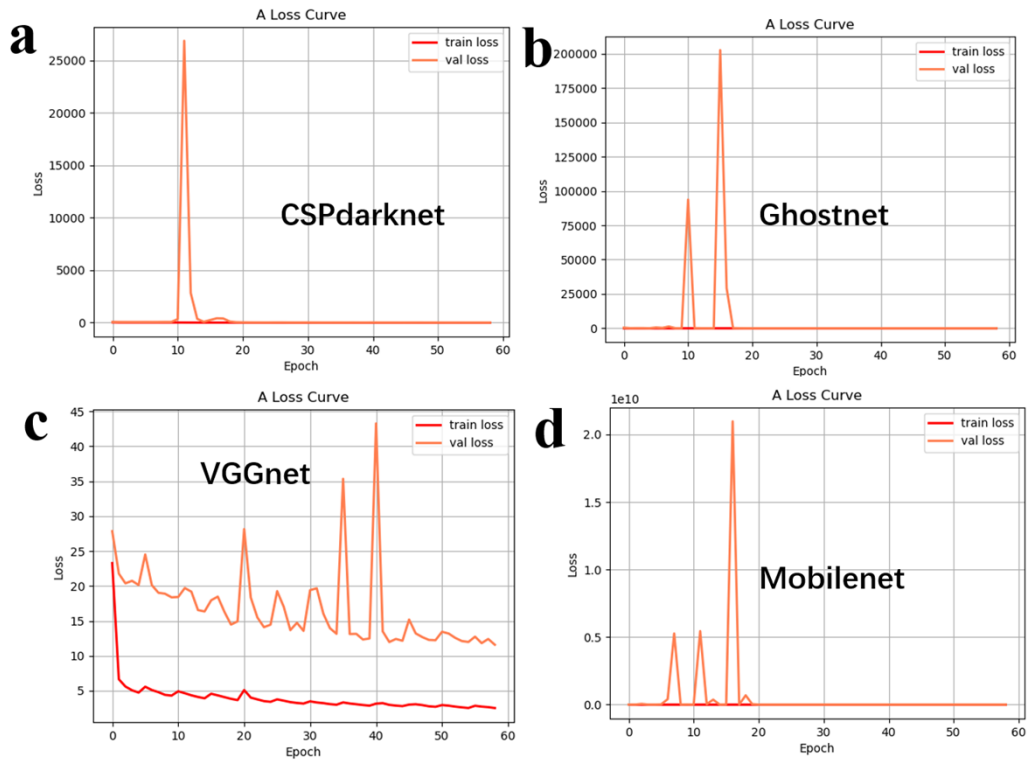


Fig. S2 Convergence of training loss and validation loss when using different model as the Backbone: (a) CSPdarkNet; (b) GhostNet; (c) VGG19; (d) MobileNet.

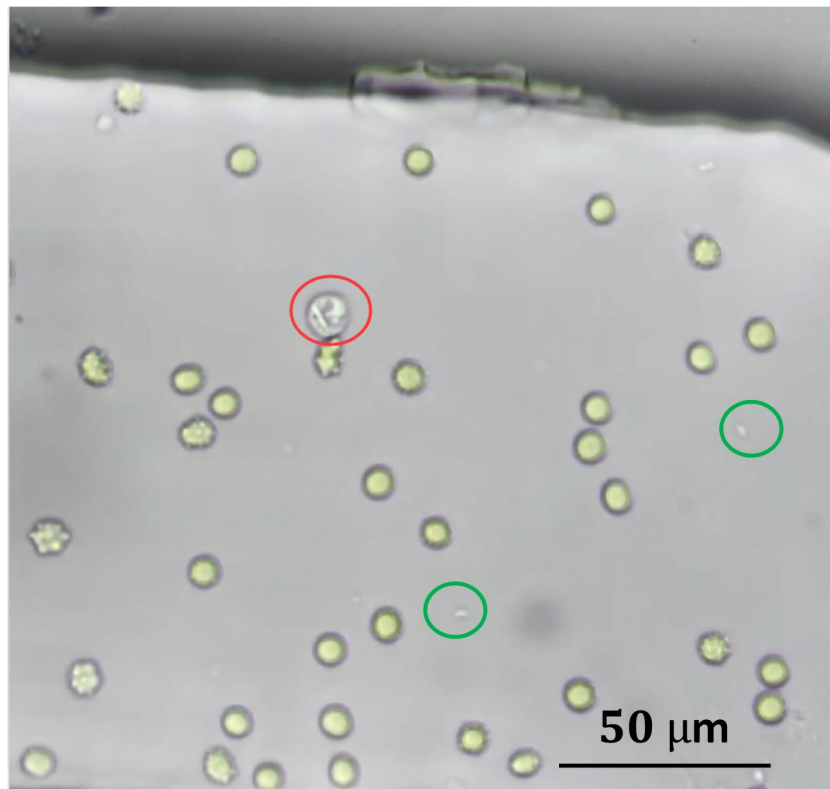


Fig. S3 Optical image of blood cells in the designed microchannel. White blood cell is marked by red circle and platelets are marked by green circles.

