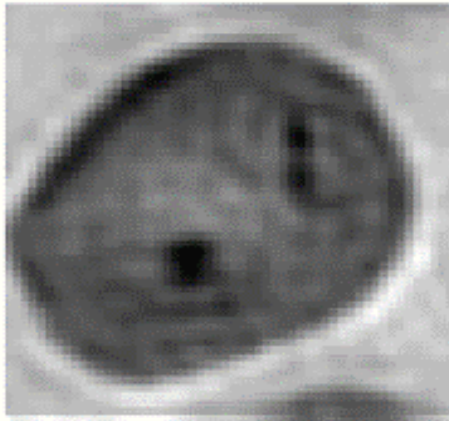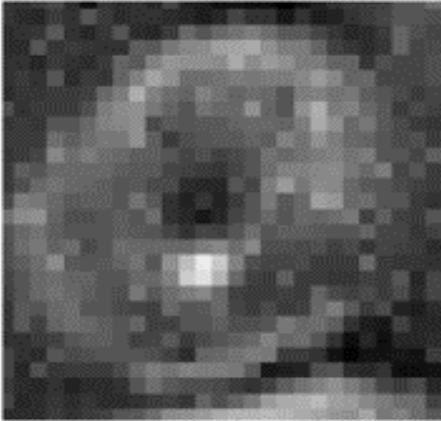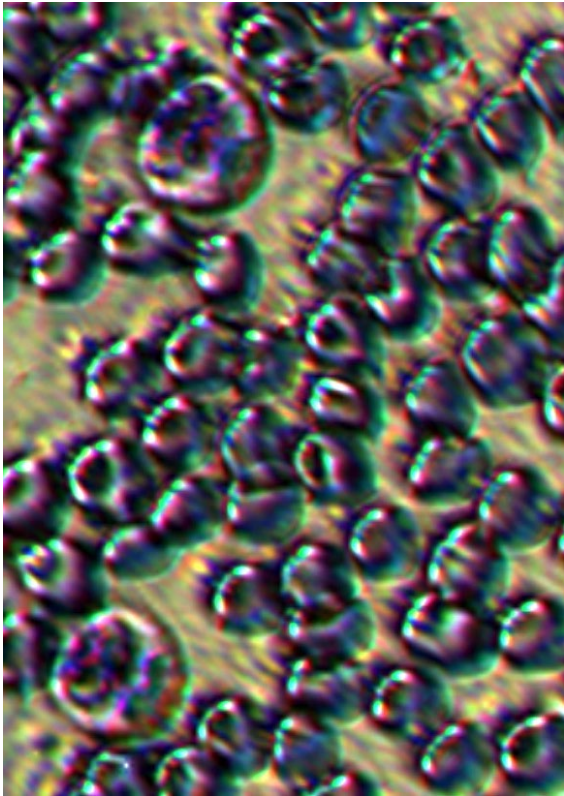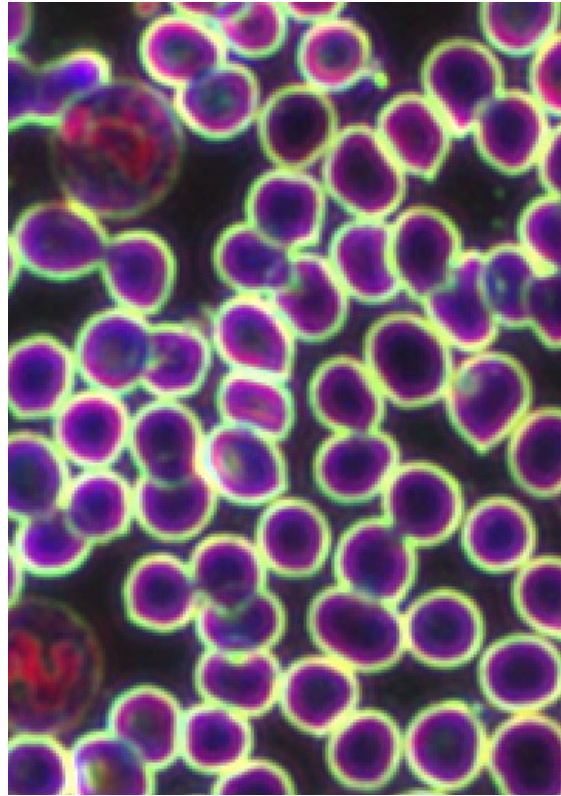# Technology Validation

A malaria infected blood cell imaged under various conditions

Our approach enhances the features of interest in low-res images

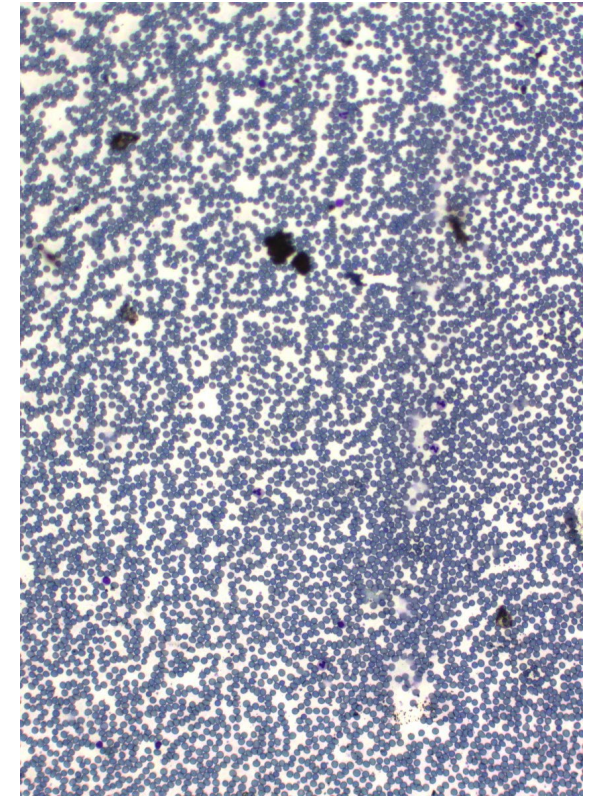|	Traditional Low-Resolution Image	Traditional High-Resolution Image	Low-Resolution image from <u>our system</u>
Magnification	20X	100X	20X
Data Capture	Low (~0.4 GB)	High (~10 GB)	Low (~0.4 GB)
ML Accuracy	**68.9%**	**96.8%**	**94.9%**
Equipment Cost	~$1000	~$100,000	~$1000

40x Off-axis   40x Dark-field Ring   40x Brightfield   10x Brightfield
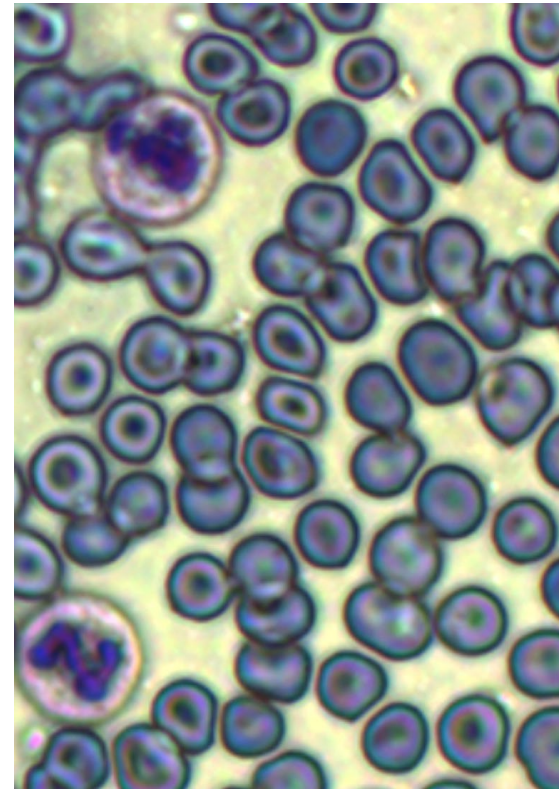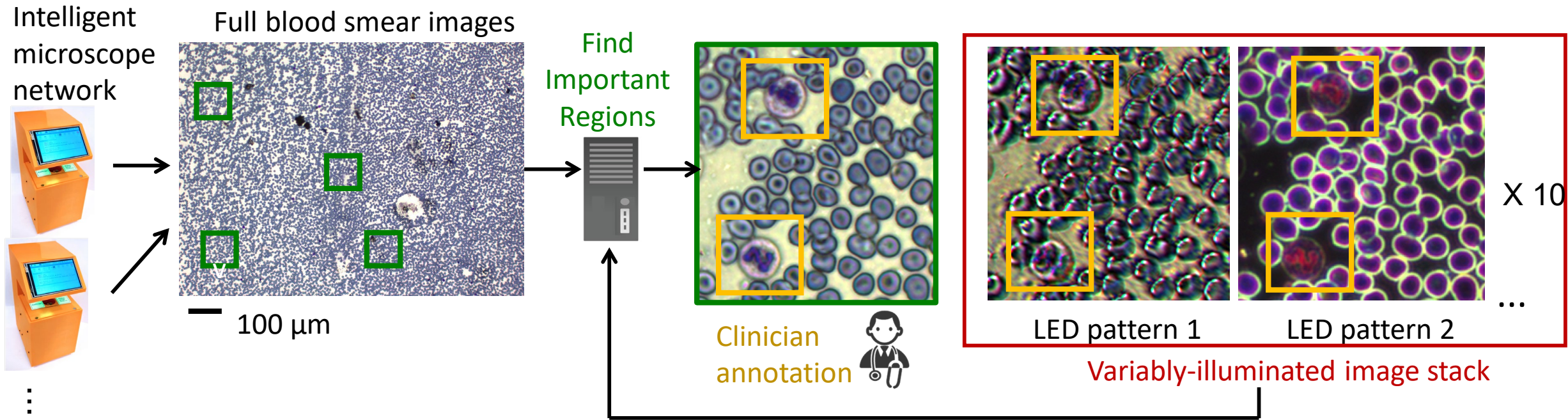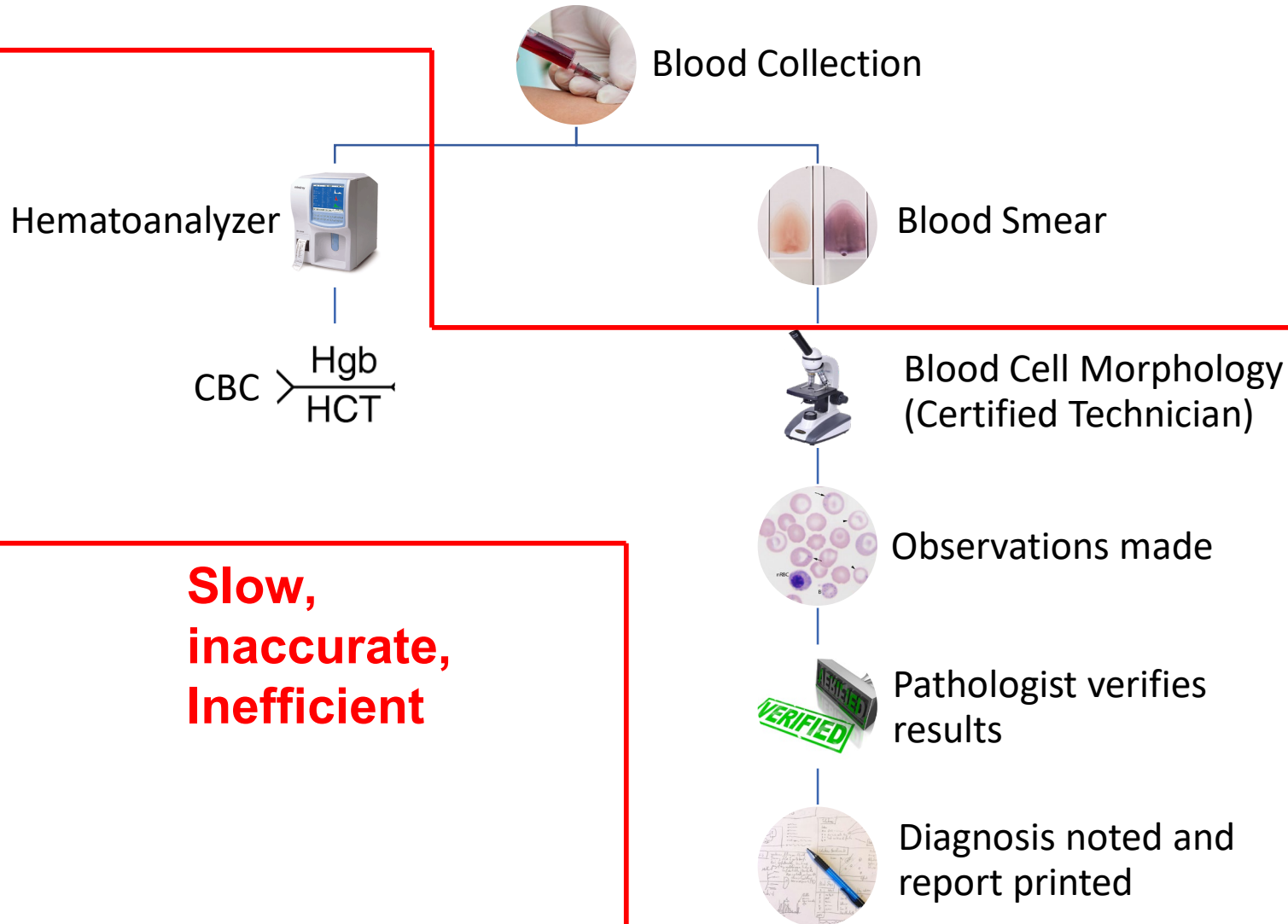
Images of the smear obtained under various conditions
(2 different versions of Alpha used for 10x and 40x)

Image cropping figure: show large FOV, and then cropped region, and show the ability to narrow in

Intelligent microscope network

Full blood smear images

100 μm

Find Important Regions

Clinician annotation

LED pattern 1

LED pattern 2

X 10

...

Variably-illuminated image stack

Current Workflow

Blood Collection

Hematoanalyzer

$$CBC > \frac{Hgb}{HCT}$$

Blood Smear

Blood Cell Morphology (Certified Technician)

Observations made

Pathologist verifies results

VERIFIED

Diagnosis noted and report printed

Slow, inaccurate, Inefficient

SafineAI Workflow

Blood Collection

Blood Smear

Fast, accurate, scalable

SafineAI microscope (**CBC + Blood Morphology**)

DEFECTO

Reports with **Insightful Images** to Pathologist for **verification**

REPORT

Digitized reports printed