The Computer Vision Mid-term Demo

Template matching corner detection

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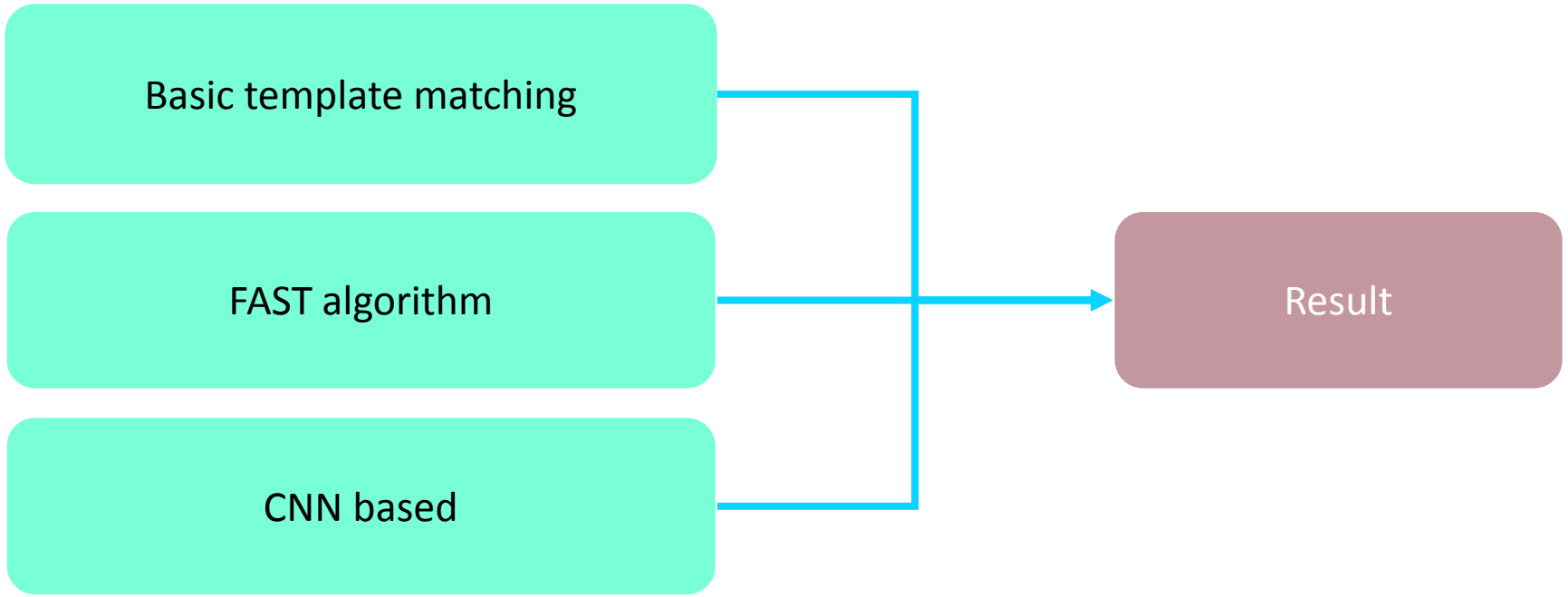
Outline

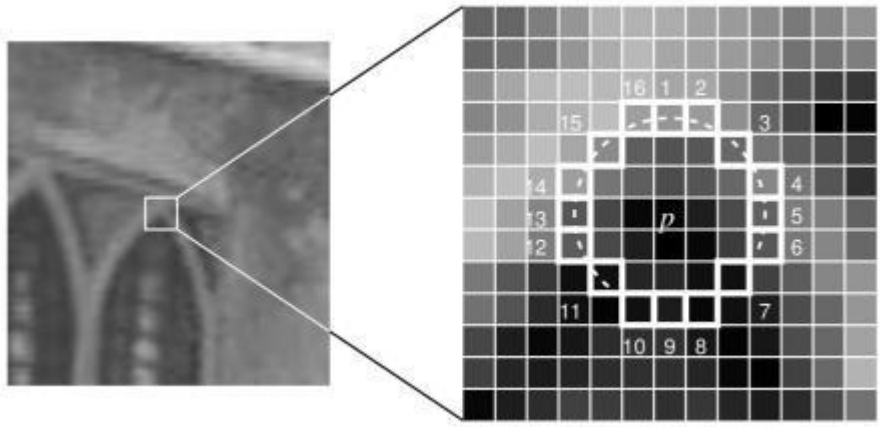


Template Matching Corner Detection

$$\begin{bmatrix} -4 & 5 & 5 \\ -4 & 5 & 5 \\ -4 & -4 & -4 \end{bmatrix} \quad \begin{bmatrix} 5 & 5 & -4 \\ 5 & 5 & -4 \\ -4 & -4 & -4 \end{bmatrix} \quad \begin{bmatrix} -4 & -4 & -4 \\ 5 & 5 & -4 \\ 5 & 5 & -4 \end{bmatrix} \quad \begin{bmatrix} -4 & -4 & -4 \\ -4 & 5 & 5 \\ -4 & 5 & 5 \end{bmatrix}$$

$$\begin{bmatrix} 5 & 5 & 5 \\ -4 & 5 & -4 \\ -4 & -4 & -4 \end{bmatrix} \quad \begin{bmatrix} -4 & -4 & 5 \\ -4 & 5 & 5 \\ -4 & -4 & 5 \end{bmatrix} \quad \begin{bmatrix} -4 & -4 & -4 \\ -4 & 5 & -4 \\ 5 & 5 & 5 \end{bmatrix} \quad \begin{bmatrix} 5 & -4 & -4 \\ 5 & 5 & -4 \\ 5 & -4 & -4 \end{bmatrix}$$

Features from Accelerated Segment Test



CNN Structure

Result

Time

Performance

Image with single width and rigid corner

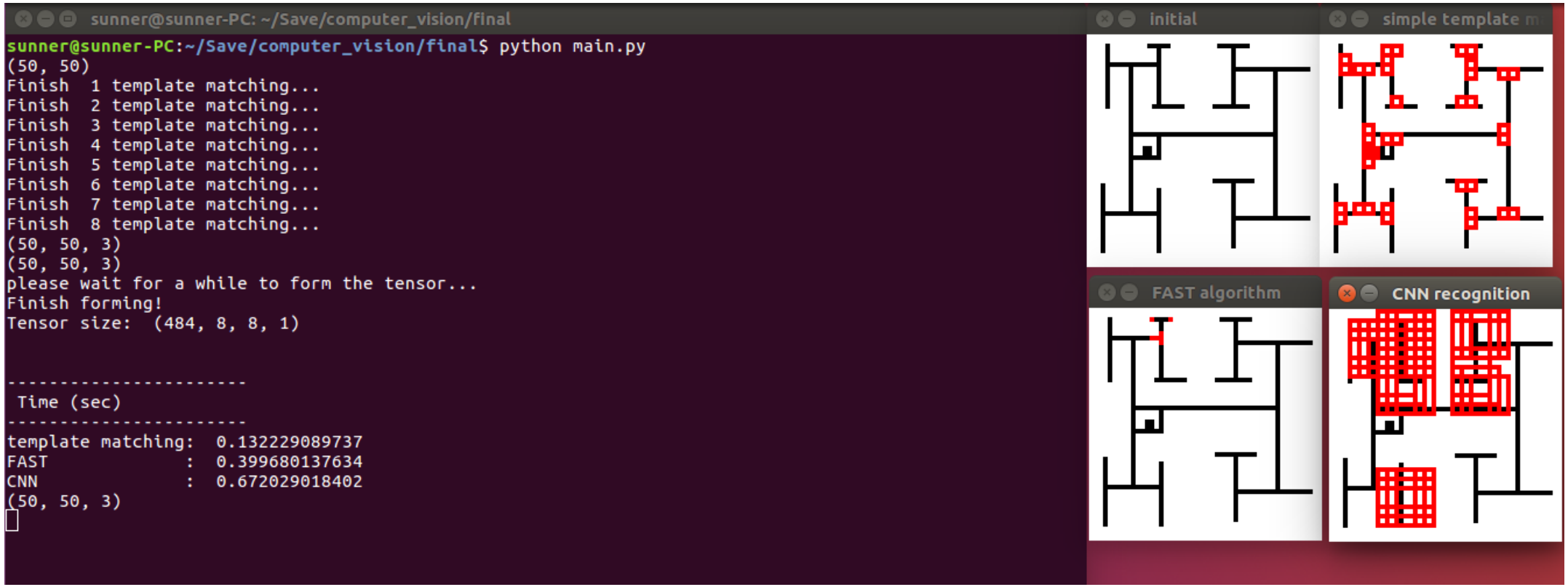
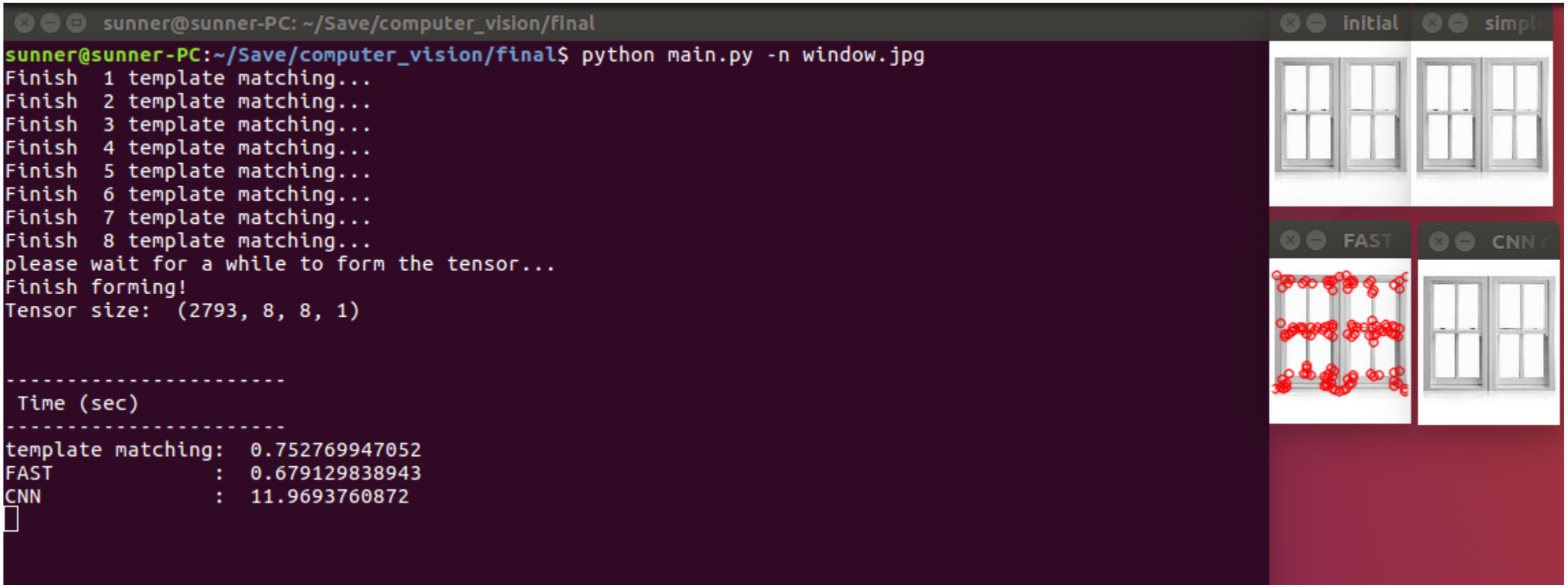


Image with single width and various corner

Natural Image



Demo