

Hallucination

A Mixed-Initiative Approach for
Efficient Document Reconstruction

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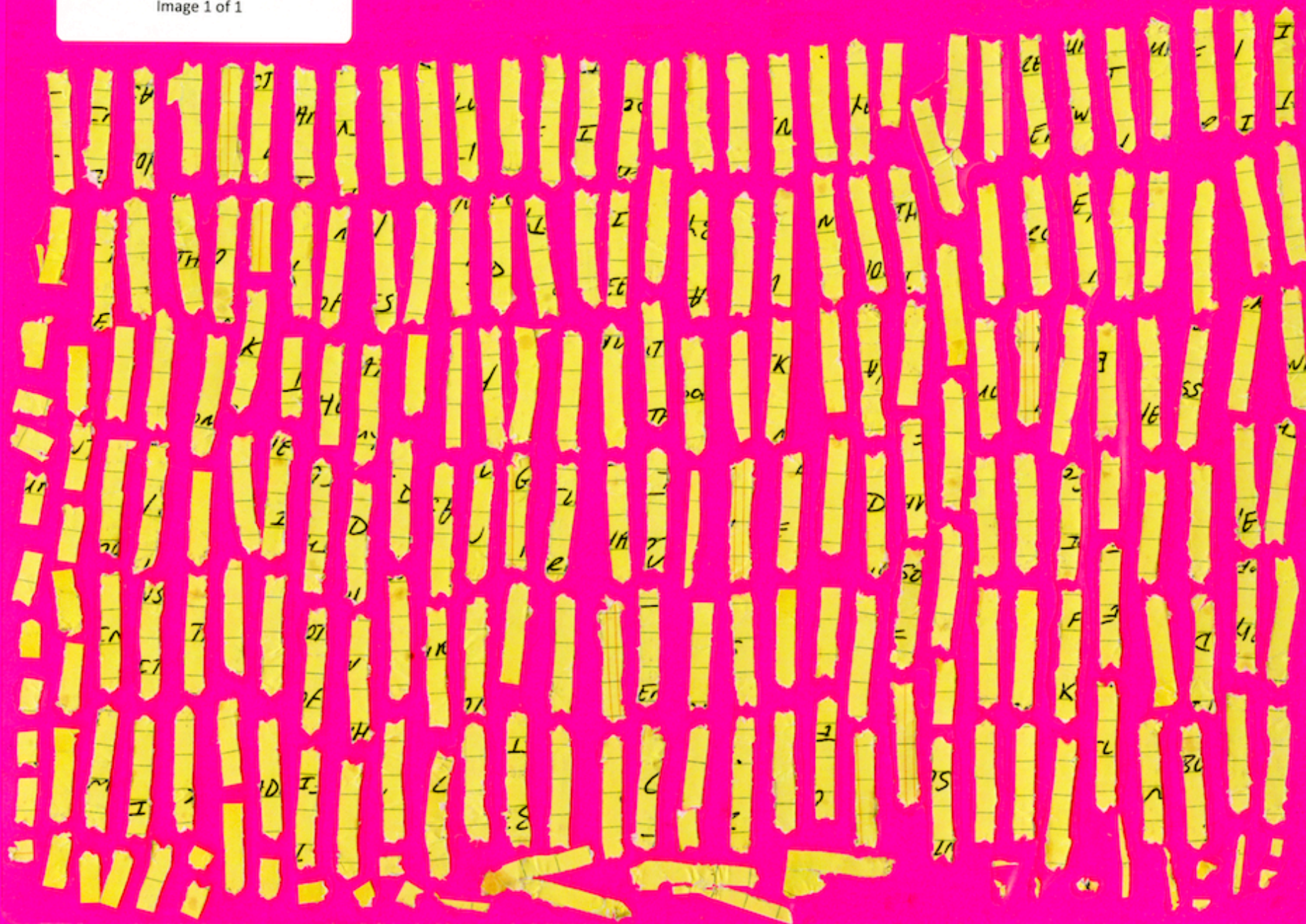
Moritz Bacher

Harvard School of Engineering and Applied Sciences

DARPA Shredder Challenge

Puzzle 1

Image 1 of 1



DARPA Shredder Challenge
Puzzle 1
Image 1 of 1

COMRADE,

I DO NOT KNOW THE
IDENTITY OF THAT WHICH

YOU SEEK BUT MY SOURCES

ASSURE ME THAT THE

ANSWER MAY LIE IN THE

TITLE OF A 1937 FILM

DIRECTED BY LITVAK.

GOOD LUCK IN YOUR

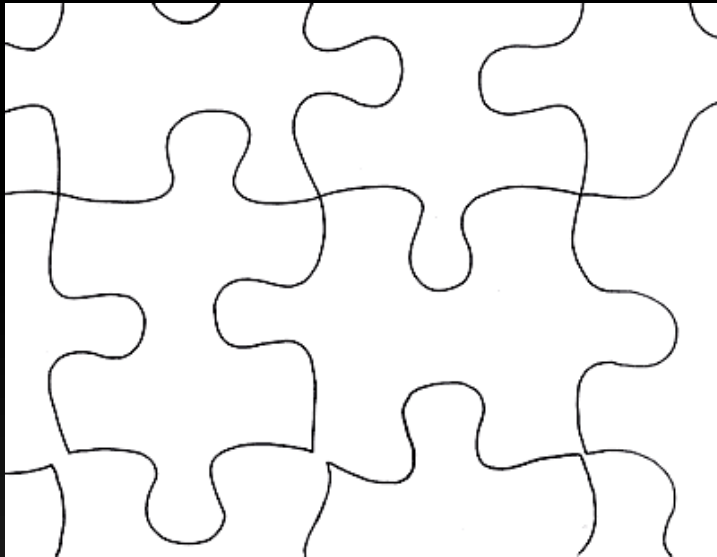
HUNT!



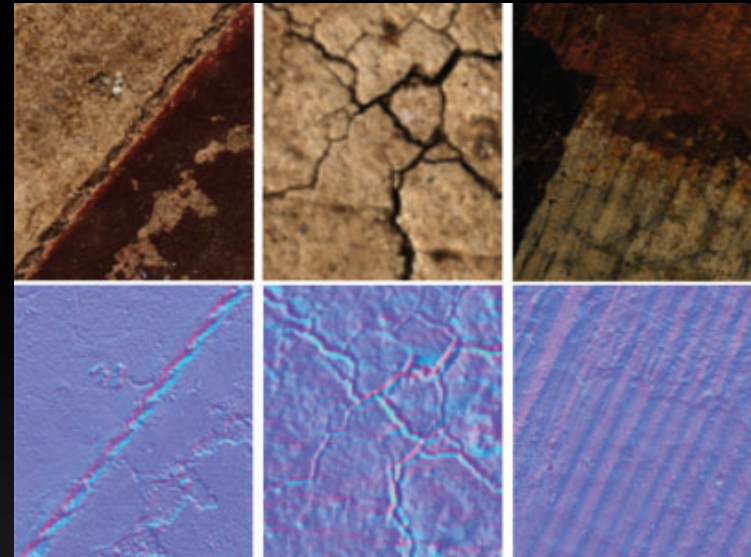
pairwise matching



automated approaches



Freeman & Garder, 1964



Toler-Franklin et al., 2010

typically...

machine identifies likely matches

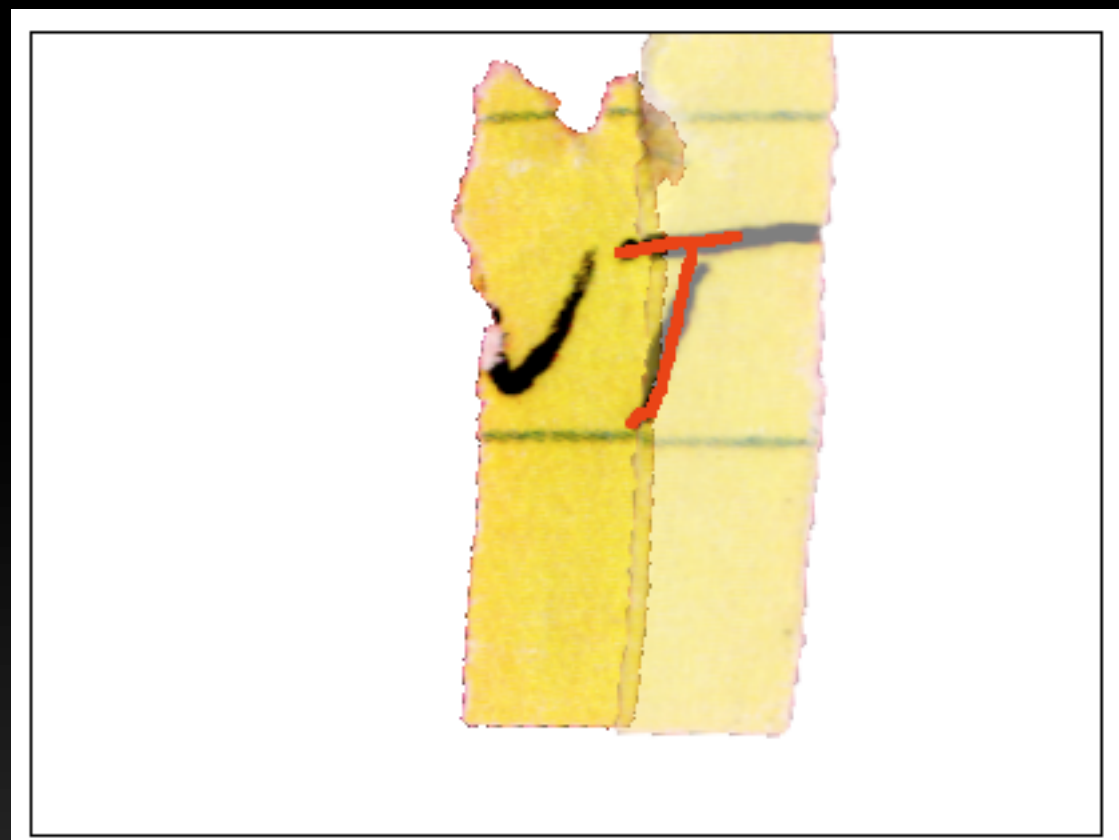
human manually verifies matches

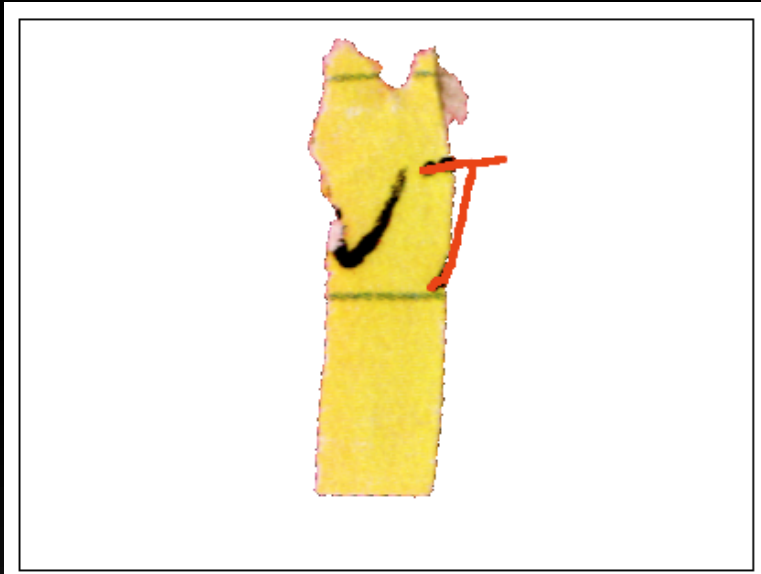


hallucination

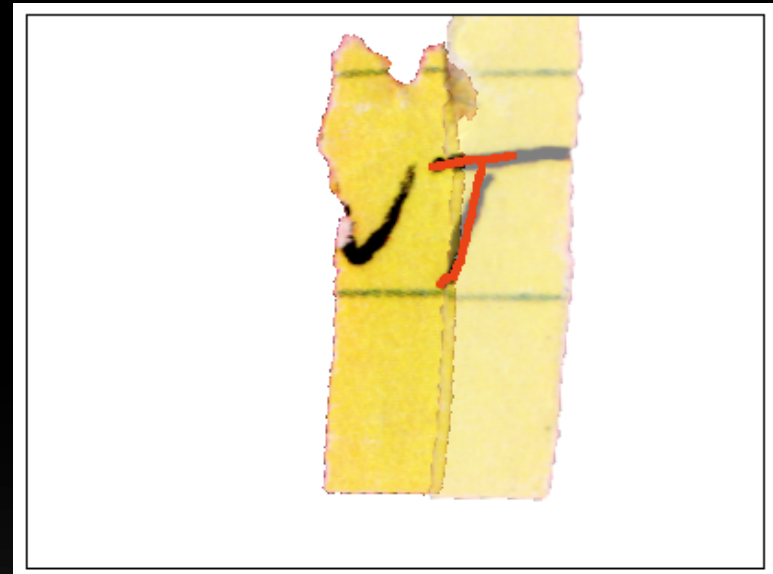








human draws
by hallucinating



machine performs
template matching

video

DARPA Shredder Challenge
Puzzle 1
Image 1 of 1

Experiment



vs.

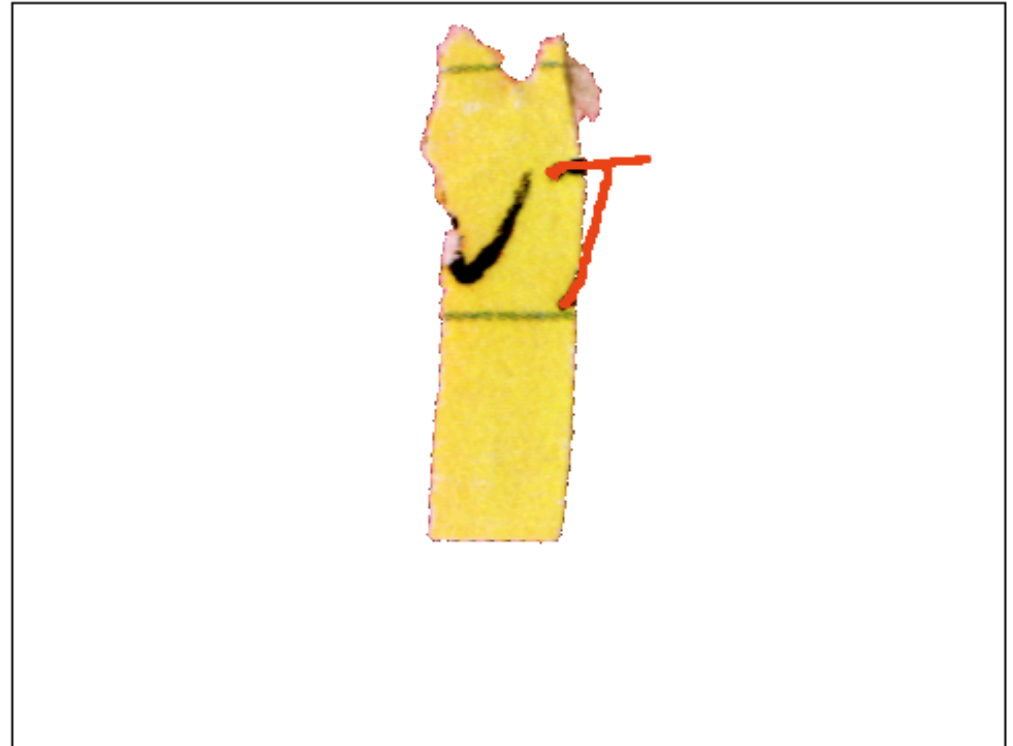


Hallucination

Machine

HIT Instructions

- We are trying to reconstruct a hand-written document that has been shredded into pieces. On the right you are shown one particular piece.
- **Please draw on the canvas what in ink is likely to be immediately to the right.**
- Please complete the tutorial before continuing (if you haven't already).
- Hints:
 - Draw as much as you can but **do not guess**.
 - Do not extend the green lines. Just the ink.
 - It's ok to trace over the ink on the piece.
- All good, **carefully drawn** attempts will be approved. Please feel free to contact us with questions. Thanks!

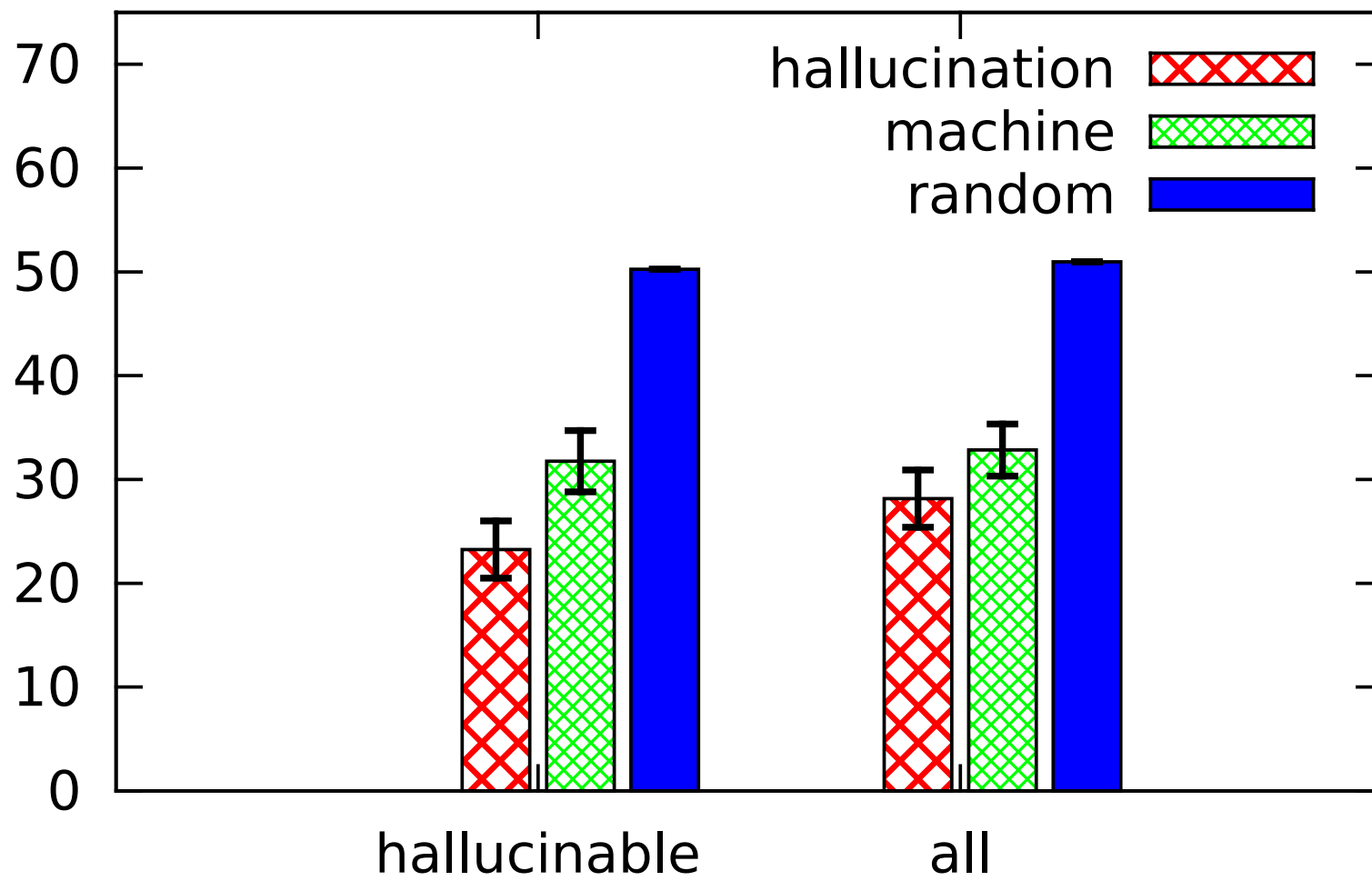


Start Over

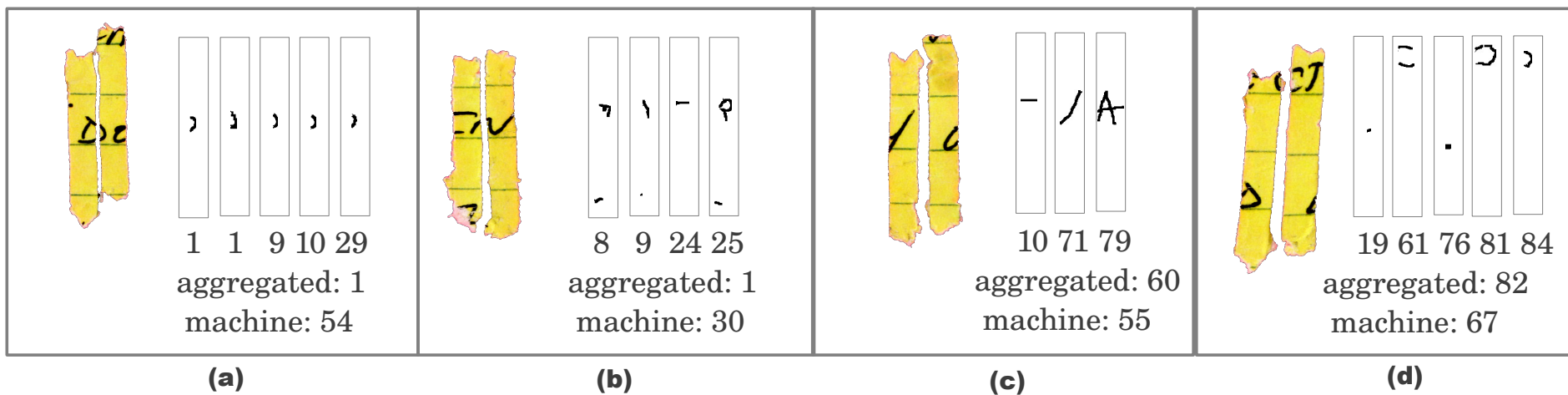
Submit Drawing

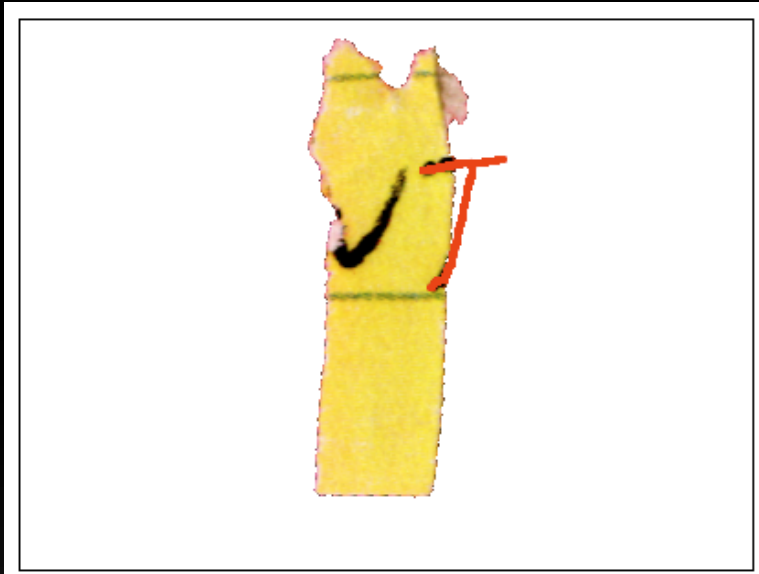
Nothing I can do here

Mean Position of First Neighbor

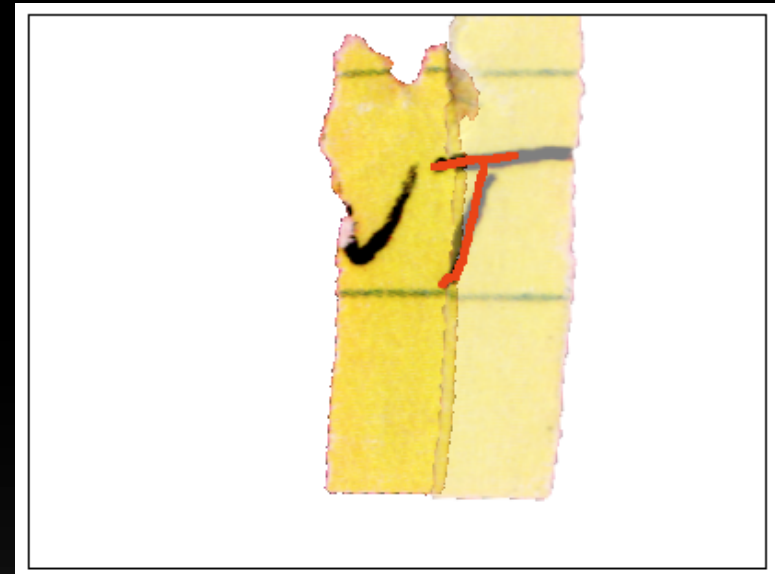


examples





human draws
by **hallucinating**



machine performs
template matching

Interfaces for supporting
the expression of people's
intuitions & knowledge
from context

thank
you

