

Computer-Assisted Consensus Among Fingerprint Examiners

The Future of Forensic Examination?

Technology along the chain



Crime Scene



'Back at the office'

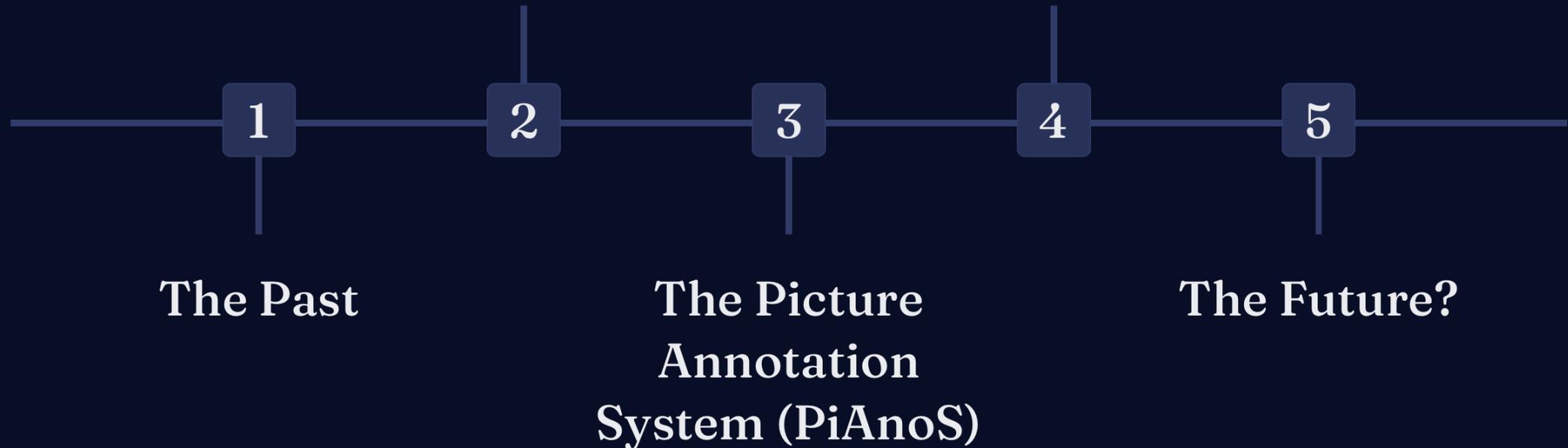


Court

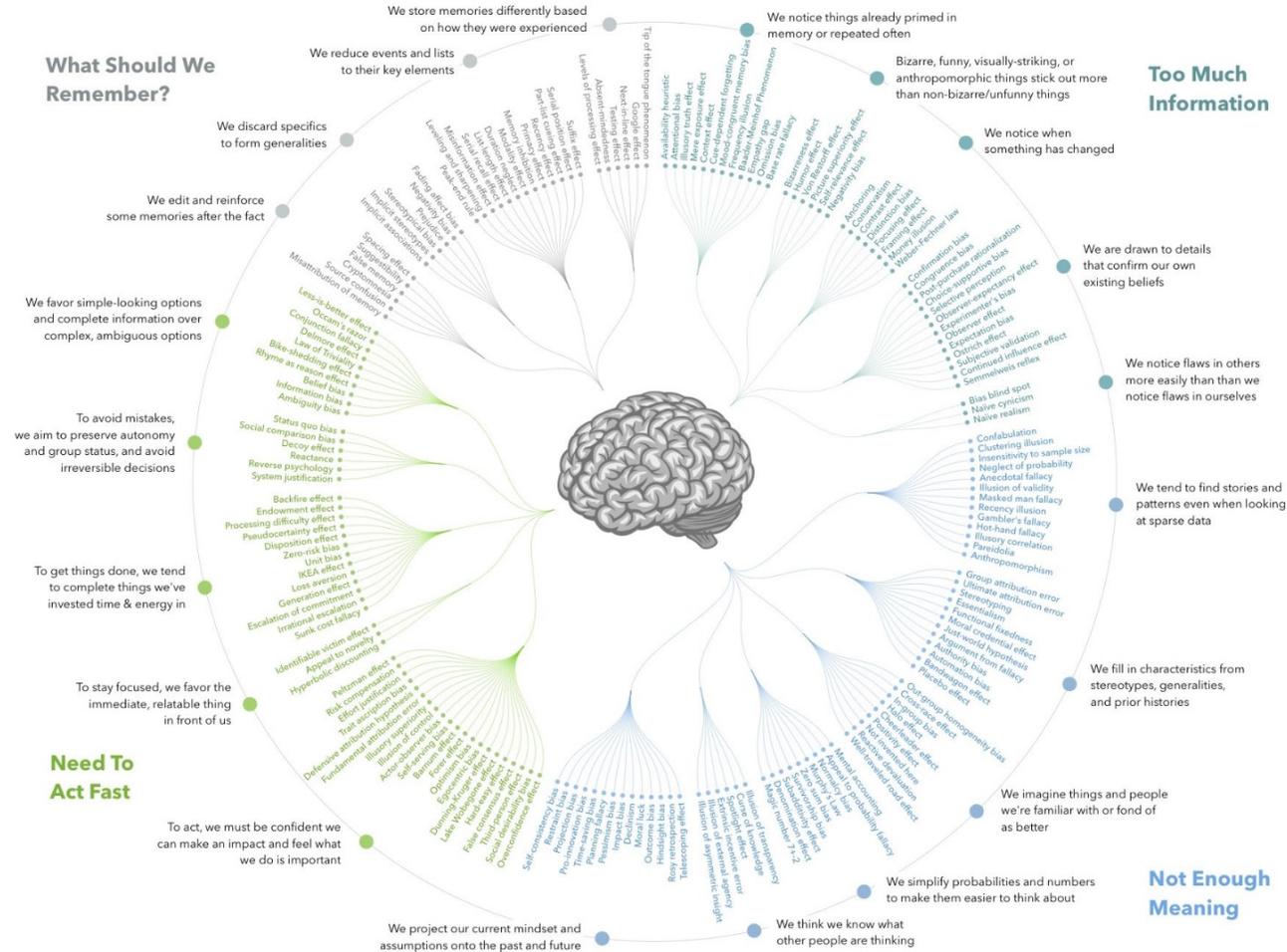
Presentation overview

Strengthening the
Forensic
Examination
Process

Why Computer-
Assisted
Consensus?



COGNITIVE BIAS CODEX



DESIGNHACKS.CO · CATEGORIZATION BY BUSTER BENSON · ALGORITHMIC DESIGN BY JOHN MANOOGIAN III (JM3) · DATA BY WIKIPEDIA

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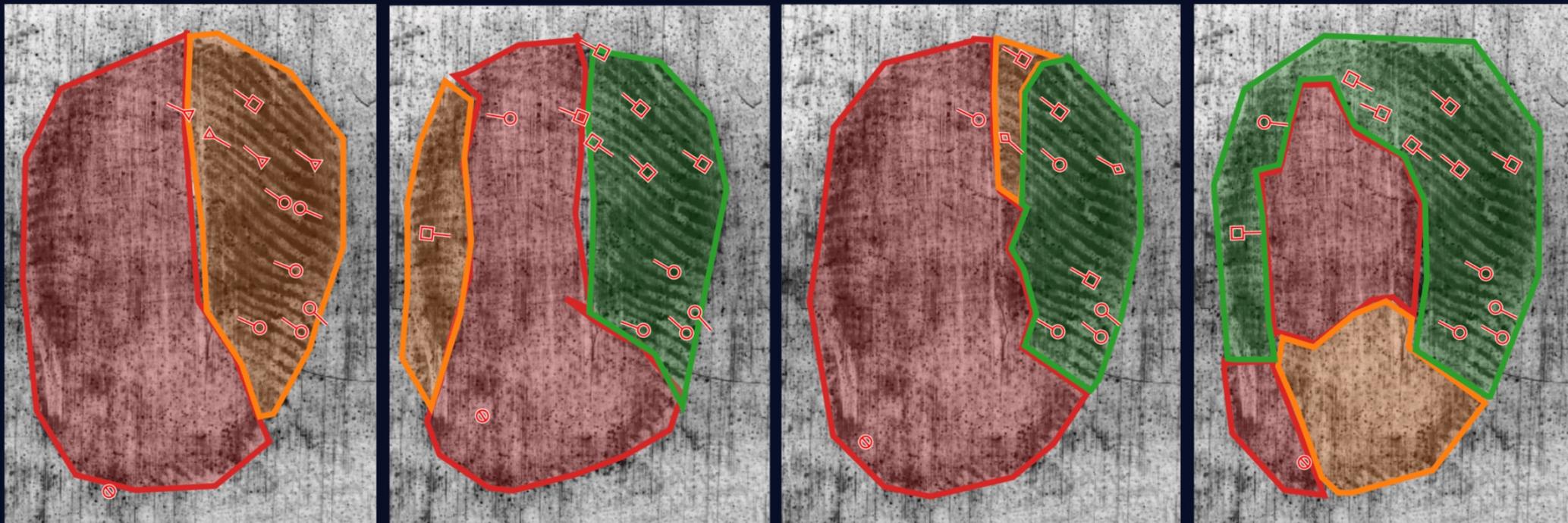
What do you see?



You can't unsee!



Variability in Forensic Feature-Comparison Disciplines



Reporting Standards



**Suitable for
comparison?**

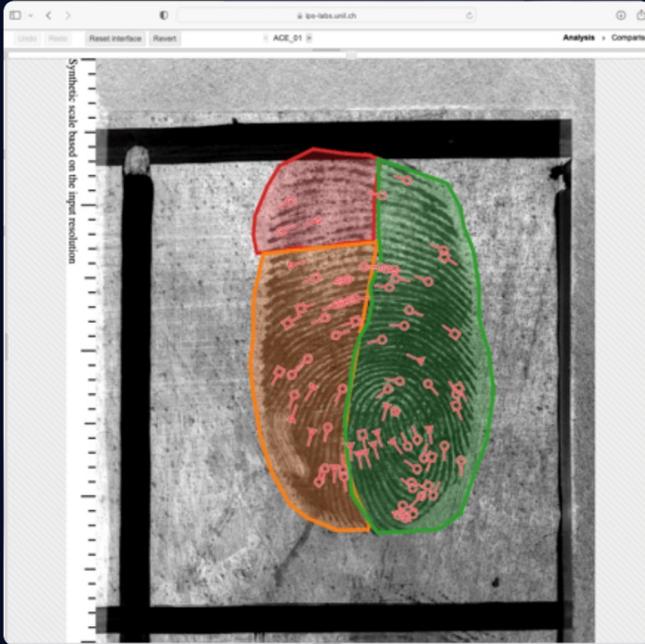


**Suitable AFIS
search?**



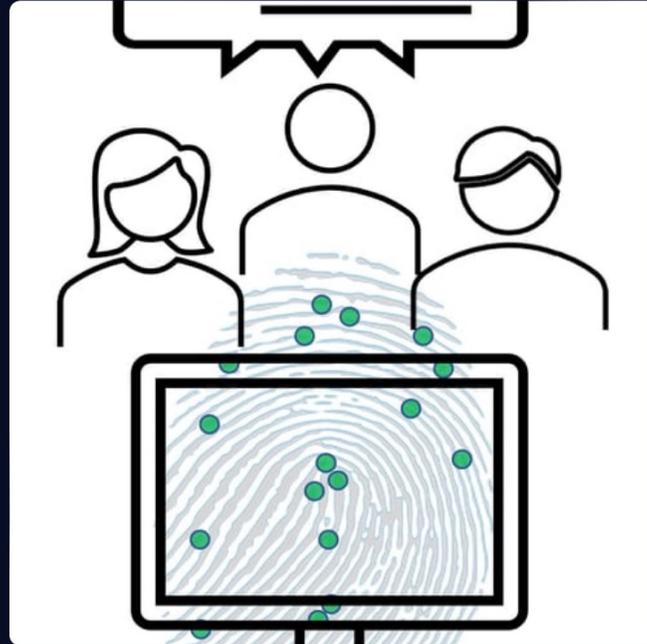
Suitable to report?

Strengthening the forensic process



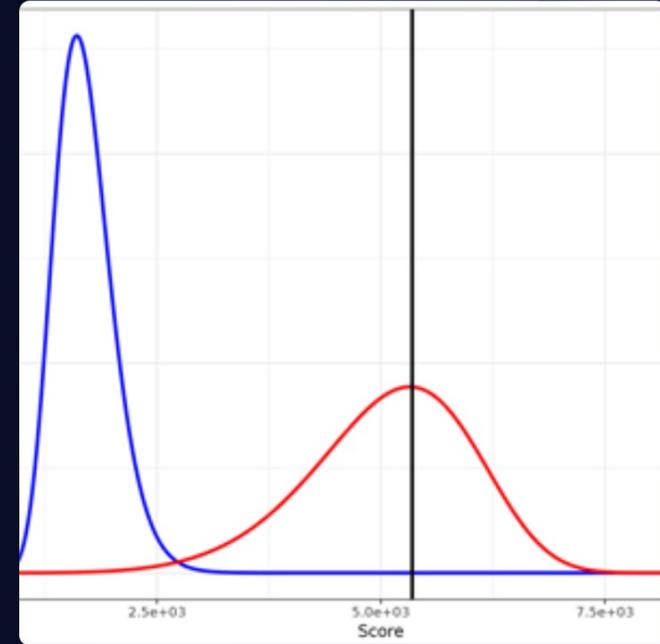
Provide the tool

Strengthen reasoning using recommended best practice approaches



Provide the strategy

Strengthen the method by reducing variability .

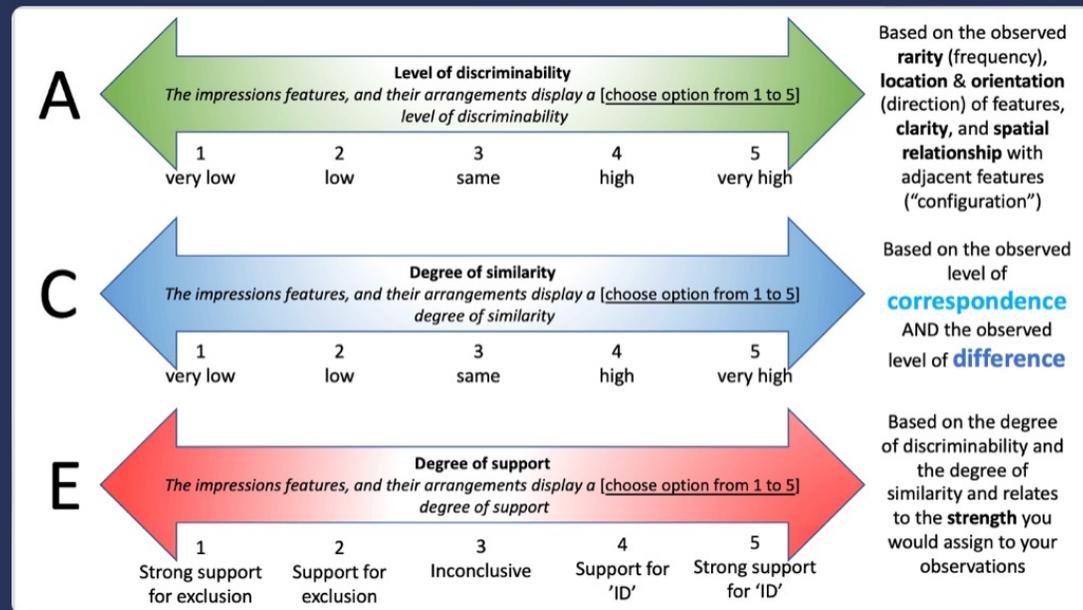


Provide the Court

Strengthen the opinion by pairing human-based approaches with numbers

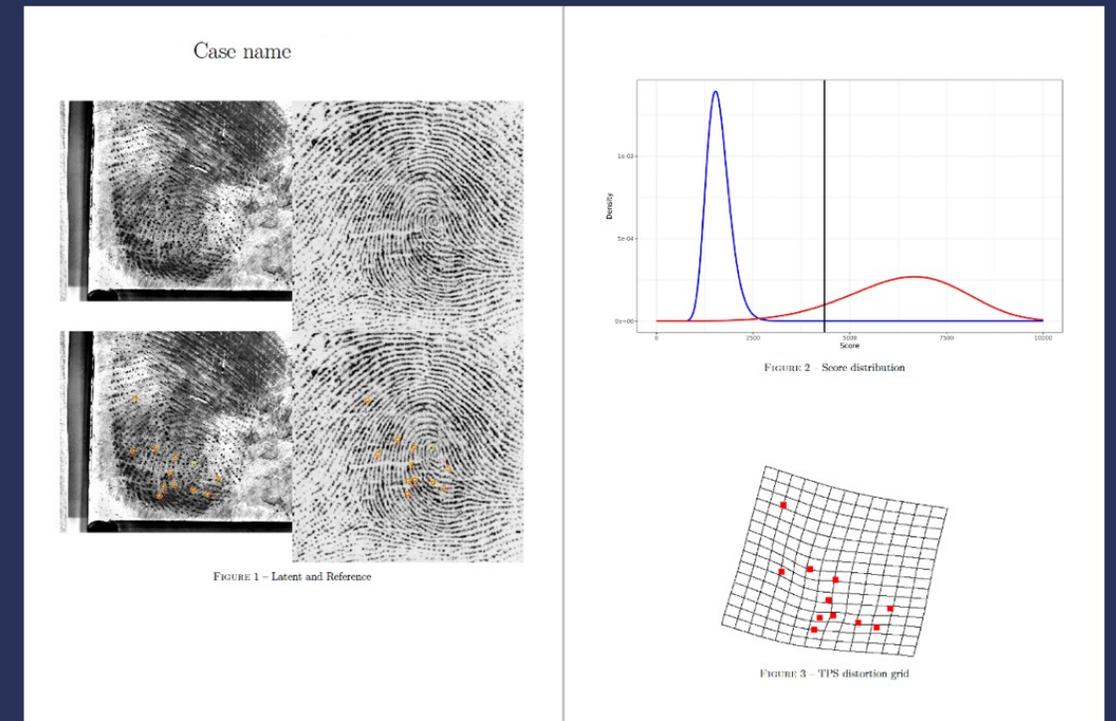
HUMAN-BASED

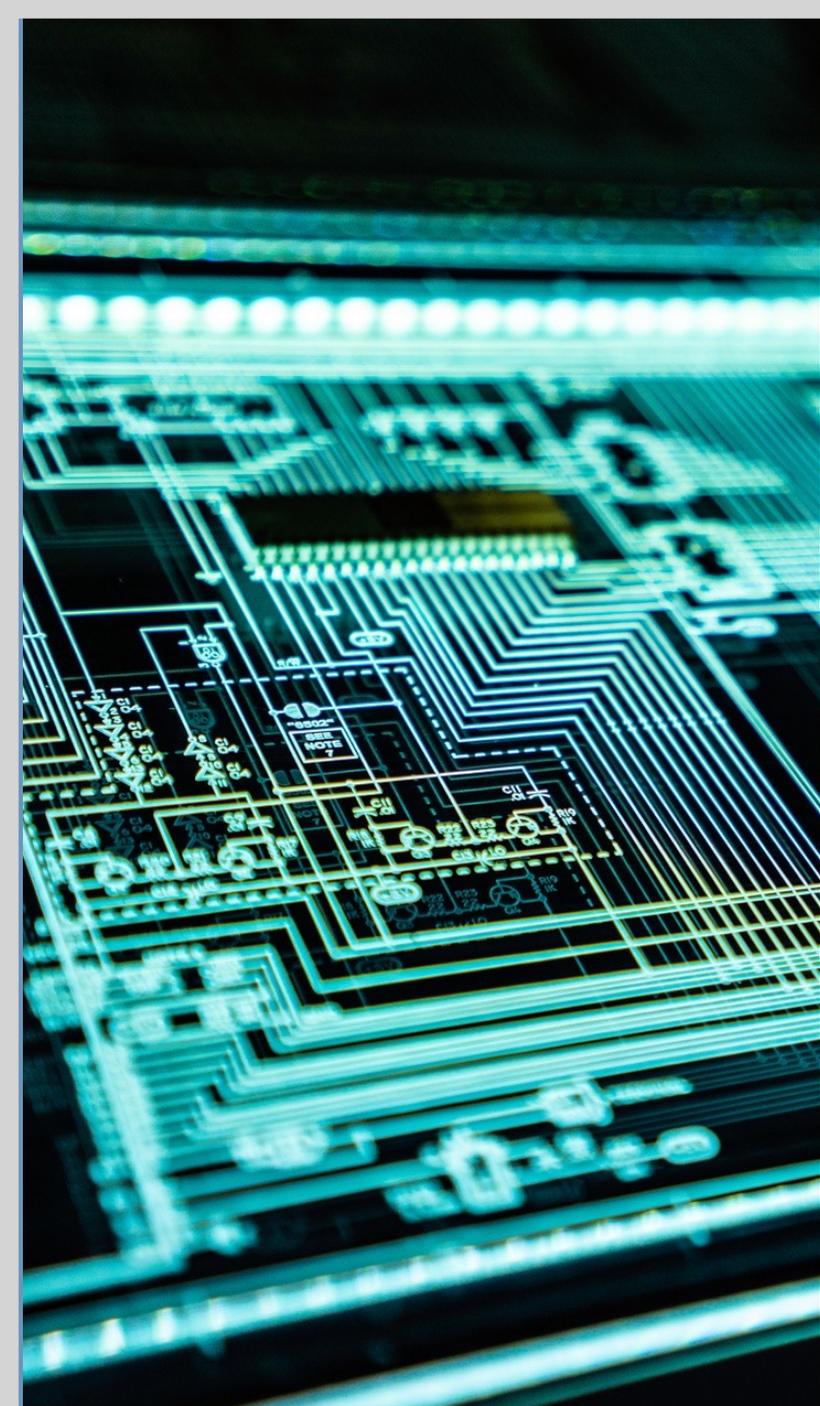
Part 1: Improving Judgments



COMPUTER-ASSISTED

Part 2: Informing Judgments

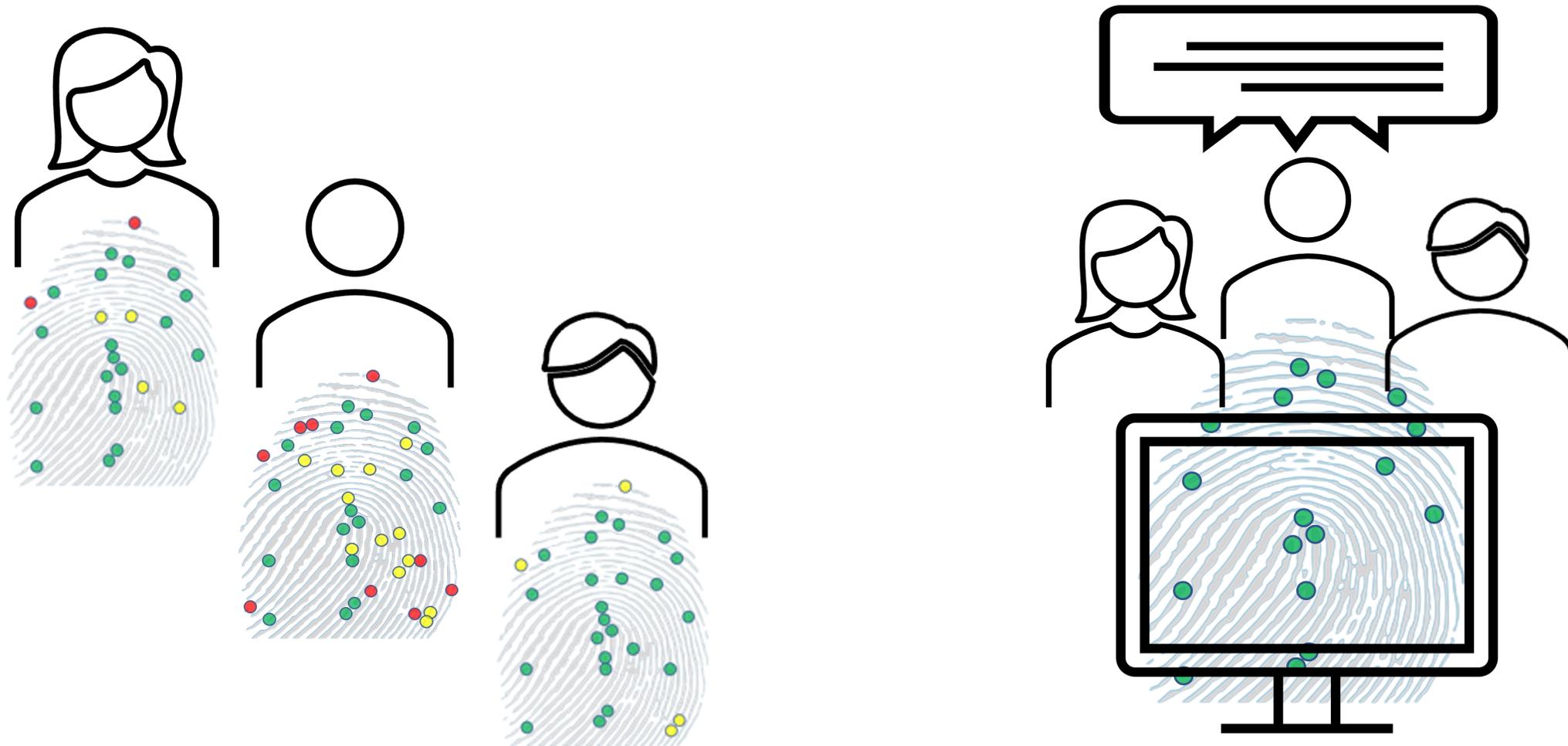




Why PiAnoS?

The Picture **A**nnotation System

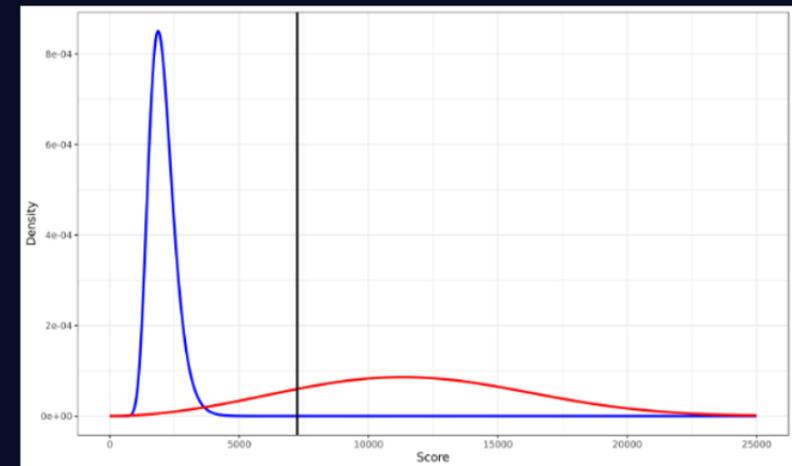
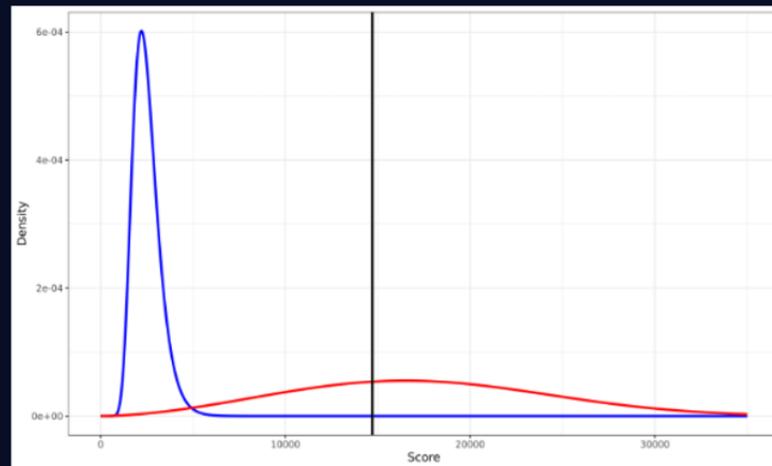
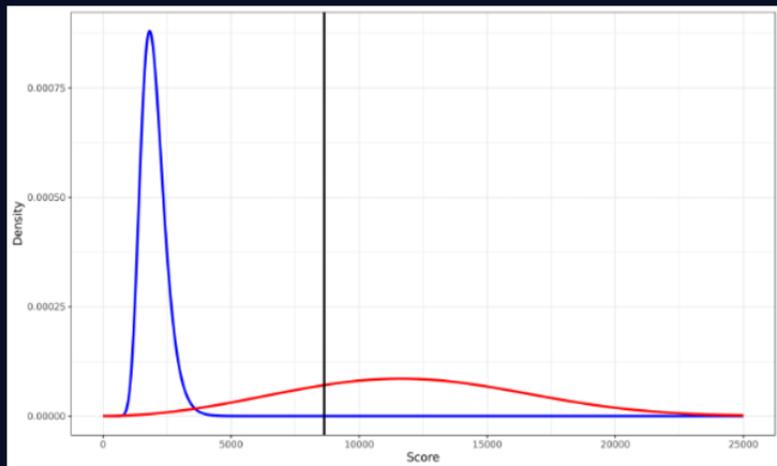
<https://ips-labs.unil.ch/apps/pianos4-utwente/>



Why Computer-Assisted Consensus?

"Consensus features should be used to assign the LRs"

Glenn Langenburg, 2009



Next generation forensics...?

HUMAN
&
COMPUTATIONAL

QUALITATIVE
&
QUANTITATIVE

**SKILL ACQUISITION IN THE DIGITAL AGE:
FORENSIC AGGREGATION**

BEHAVIOURAL
&
MATHEMATICAL

COMMUNICATION & ARTICULATION
&
EVIDENTIAL SCORE

Take home message



Provide the tool

PiAnoS,
to strengthen examiner reasoning



Provide the strategy

Computer-Assisted Consensus,
to strengthen examiner opinions



Provide the courts

With LRs,
to strengthen the judicial decision

Thank you!



@gibbyprint