

Is Source Code Speech under the Confrontation Clause?

RICHARD TORRES

STAFF ATTORNEY

THE LEGAL AID SOCIETY, NEW YORK, NY

rjtorres@legal-aid.org

212-577-3580

6th Amendment is Revolutionary Era Error Management

“In all criminal prosecutions, the accused shall enjoy the right ... to be confronted with the witnesses against him”



Sir Walter Raleigh

Confrontation is a tool to for ensuring witness reliability

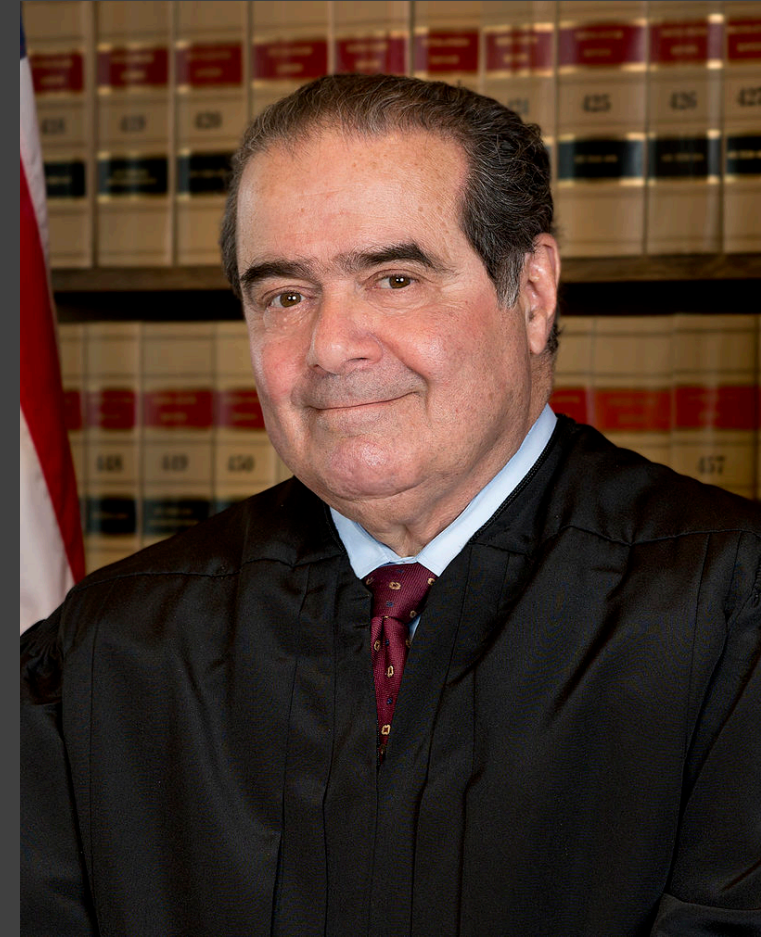


“Dispensing with confrontation because testimony is obviously reliable is akin to dispensing with jury trial because a defendant is obviously guilty. This is not what the Sixth Amendment prescribes.” *Crawford v. Washington*, 541 U.S. 36, 62 (2004)

Justice Scalia

Confrontation applies to laboratory analysts

“The analysts who swore the affidavits provided testimony against Melendez–Diaz, and they are therefore subject to confrontation; we would reach the same conclusion if all analysts always possessed the scientific acumen of Mme. Curie and the veracity of Mother Theresa.” *Melendez-Diaz v. Massachusetts*, 557 U.S. 305, fn. 6 (2009)



Justice Scalia

No, it really applies to forensic analysts



“A document created solely for an ‘evidentiary purpose,’ Melendez–Diaz clarified, made in aid of a police investigation, ranks as testimonial.” *Bullcoming v. New Mexico*, 564 U.S. 647, 664 (2011).

Justice Ginsburg

Is confrontation of a lab analyst a mere formality?

Morning Mix

How a lab chemist went from 'superwoman' to disgraced saboteur of more than 20,000 drug cases

By **Katie Mettler** April 21 

The Washington Post
Democracy Dies in Darkness

https://www.washingtonpost.com/news/morning-mix/wp/2017/04/21/how-a-lab-chemist-went-from-superwoman-to-disgraced-saboteur-of-more-than-20000-drug-cases/?utm_term=.39a10a548bbe

What confrontation rights are there when software performs a subjective analysis?

Does software eliminate the human factors:

Dishonesty?

Mistakes?

Subjectivity?

Dishonest software is real

UBER



LG



Mariordo Mario Roberto Duran Ortiz, 2010'

Are software bugs a real concern?

4.1 PRINCIPLES THAT DRIVE SOFTWARE TESTING OBJECTIVES

Any code, no matter how accomplished the programmers, will have some bugs. Some bugs will be detected and removed during unit programming. Others will be found and removed during formal testing as units are combined into components and components into systems. However, all developers release products knowing that bugs still remain in the software and that some of them will have to be remedied later.

Planning Report 02-3
The Economic
Impacts of Inadequate
Infrastructure for
Software Testing

Prepared by:
RTI
for

National Institute of
Standards & Technology

Program Office
Strategic Planning and
Economic Analysis Group

May 2002

Software subjectivity

“But perhaps both Mark [Perlin] and myself should make clear that both softwares [STRmix and TrueAllele] contain elements of subjectivity programmed into them.”

<https://johnbuckleton.files.wordpress.com/2016/09/dna-evidence-in-ny-v-oral-hillary-i2.pdf>

Are software issues identified via code review?

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

-----X

UNITED STATES OF AMERICA :

- v. - :

15 Cr. 565 (VEC)

KEVIN JOHNSON, :

DEFENDANT. :

-----X

REVISED MEMORANDUM OF LAW IN SUPPORT OF MOTION TO
EXCLUDE DNA-EVIDENCE GENERATED BY THE
OCME'S FORENSIC STATISTICAL TOOL (FST)

1. Undisclosed behaviors: discovered FST code function to throw out data at loci where [REDACTED] of the allele frequencies are observed

Now that an initial review of the FST source code has been conducted, it has come to light that the program in fact performs LR calculations subject to a formula that has never been reported, and which favors the prosecutor's hypothesis.¹⁵⁷ Explained below, the embedded code jettisons data for entire loci when the frequency for individual alleles is considered to be unacceptably *high*. A high frequency allele would push a LR closer to 1. As FST is supposed to calculate the potential frequencies for every possible genetic combination at each locus, eliminating a locus entirely where data includes a high frequency allele is likely to favor the government. Following the data reported in the validation study and *Mitchell et al.*, eliminating an entire locus with a high-frequency allelic combination will favor the government in every instance.

This powerful, highly influential feature of FST has never been reported anywhere and has only been revealed in the review of the source code. It is axiomatic that it has never been subjected to even minimal peer review. To the contrary, indications are that strenuous effort has been expended to prevent it.

Are software issues identified via code review?

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK
-----X
UNITED STATES OF AMERICA :
 :
 - v. - : 15 Cr. 565 (VEC)
 :
 KEVIN JOHNSON, :
 :
 DEFENDANT. :
-----X

REVISED MEMORANDUM OF LAW IN SUPPORT OF MOTION TO
EXCLUDE DNA-EVIDENCE GENERATED BY THE
OCME'S FORENSIC STATISTICAL TOOL (FST)

Likewise, there is no indication whatsoever that anyone at OCME even knew of the [REDACTED] data-discarding function, other than whoever coded it into FST.¹⁵⁸ In other words, the operator doesn't record this phenomenon – nor are they included in a subject's FST results. It is a function of the software that was previously undetected.

Like the other manipulations of FST that strayed from the observed data in their drop-out experiments, there is no record whatsoever that the [REDACTED] data-discarding function was tested to see if it might be prejudicial to a defendant. As Shapiro and Adams have shown us, variables should be case-specific and sometimes will hurt the defendant.

Does the Constitution apply to code?

“Computer programs are not exempted from the category of First Amendment speech simply because their instructions require use of a computer. ... But the fact that a program has the capacity to direct the functioning of a computer does not mean that it lacks the additional capacity to convey information, and it is the conveying of information that renders instructions ‘speech’ for purposes of the First Amendment.”

Universal City Studios v. Corley, 273 F.3d 429, 447-449 (2d Cir. 2001); *See also Brown v. Entertainment Merchants Ass’n*, 564 U.S. 786 (2011)

Is the defendant allowed to see the statement that he is prosecuted with?

Who can testify about *what* a program *actually* did in a particular case?

- Laboratory analyst?

 - Black box software?

- Software developers?

 - Can you catch a developer's mistake or lie without software access?

 - Will a developer be aware of a bug or even know her code well enough to get into the details?

Is the defendant questioning the machine or is he questioning the programmer?

What other solutions are there to check the code for dishonesty, errors or subjectivity?

- Black Box Testing?
- Validation studies?
- Comparing other software?