

A Pragmatic Introduction to Secure Multi-Party Computation

Suggested Citation: David Evans, Vladimir Kolesnikov and Mike Rosulek, *A Pragmatic Introduction to Secure Multi-Party Computation*. NOW Publishers, 2018.

David Evans

University of Virginia
evans@virginia.edu

Vladimir Kolesnikov

Georgia Institute of Technology
kolesnikov@gatech.edu

Mike Rosulek

Oregon State University
rosulekm@eecs.oregonstate.edu

This article may be used only for the purpose of research, teaching, and/or private study. Commercial use or systematic downloading (by robots or other automatic processes) is prohibited without explicit Publisher approval.

now

the essence of knowledge

Boston — Delft

Errata

Last update: August 24, 2019

23 June 2019

- Footnote 1 on Page 34 (Patricia Thaine): “will reveal x to P_1 ” should be “will reveal x to P_2 ”.
- Section 4.1.2 (p. 67, bottom) (Patricia Thaine): The share reconstruction description didn’t include the semantic indexes. To clarify, it should be:

The share reconstruction procedure on input sh_{1i}, sh_{2i} , outputs $sh_{1i} \oplus sh_{2i} = s_i$.

- Section 6.2 (p. 109) (Patricia Thaine):

"It follows that the parties must always perform the second phase, even when P_1 is honest."

should be

"It follows that the parties must always perform the second phase, even when P_1 is caught cheating."

- Section 6.5.1 (p. 113-114) (Patricia Thaine): The given wording could be interpreted ambiguously,

“In other words, the ZK proof should prevent parties from running π honestly, but with different inputs in different rounds.”

Replaced with:

“In other words, the ZK proof should prevent parties from running π with different inputs in different rounds.”

10 July 2019

- Fixes to notation in Section 4.1 (the GESS construction) to avoid confusion in the Δ notation. (Shengchao Ding)

23 Aug 2019

- Section 4.1.3, p. 71, line 2-3 (Shengchao Ding): “when v_a is false, $v_c = v_b$ ” should be “when v_a is true, $v_c = v_b$ ”
- Section 4.2.2, several instances (Shengchao Ding): “CMBC-GC” should be “CBMC-GC”