

MP-SPDZ

MPC Made in Australia

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MP-SPDZ: MPC made in Australia

Program once, execute in many protocols



[https://github.com/
n1analytics/MP-SPDZ](https://github.com/n1analytics/MP-SPDZ)

- ▶ Fork of Bristol Crypto's SPDZ-2
- ▶ Program in Python, execute in fast virtual machine
- ▶ Dishonest majority (any number of parties) and honest majority (3 parties)
- ▶ Malicious security and semi-honest
- ▶ Arithmetic (modulo prime and 2^{64}) and binary circuits
- ▶ Secret sharing and garbled circuits
- ▶ Protocols: SPDZ/MASCOT/Overdrive, 3-party replicated, Yao's garbled circuits, SPDZ-BMR