

Appendix

Zenith: Real-time Identification of DASH Encrypted Video Traffic with Distortion

Anonymous Authors

A COMPARISON DATA

We compare Zenith with four other SOTA methods across various complex network environments and playback modes, and Zenith

significantly improves both accuracy and speed. Table 1 presents the accuracy of encrypted video traffic identification for Zenith and four other SOTA methods across five different scenarios.

Table 1: Detailed data from the method comparison experiment.

Method	Video Duration (s)	Accuracy (%)										Average Time Consumption (ms)
		Ideal		Low Resolution		Auto Resolution		VPN		Low Bandwidth		
		TLS	QUIC	TLS	QUIC	TLS	QUIC	TLS	QUIC	TLS	QUIC	
Wu	10	62.41	55.34	59.31	57.76	60.90	51.77	62.06	54.34	55.11	51.93	63.25
	30	80.97	65.29	77.09	65.22	78.50	67.32	79.29	67.07	74.00	62.65	
	60	87.14	74.30	84.34	72.32	83.64	71.61	84.16	73.76	79.99	68.92	
	120	92.87	80.79	89.48	77.00	87.21	75.49	88.42	77.01	84.30	73.05	
	240	96.01	84.22	95.67	83.97	91.37	79.34	92.87	81.43	88.89	77.11	
	480	98.15	87.61	98.02	87.24	93.59	81.97	95.13	84.05	92.10	80.94	
Yang	10	60.88	53.47	57.19	54.23	55.89	52.39	56.97	53.41	51.16	45.36	71.89
	30	83.41	68.19	79.26	65.51	75.33	60.22	76.93	61.30	69.22	58.44	
	60	88.27	75.53	85.13	73.00	80.29	67.87	81.03	68.29	75.98	64.30	
	120	93.08	82.16	92.67	81.79	87.03	76.01	88.16	77.01	86.33	73.96	
	240	97.89	85.11	97.16	84.30	91.78	79.13	92.04	79.86	90.21	76.10	
	480	98.32	85.88	98.09	85.21	93.12	80.11	93.84	81.03	91.71	78.81	
Zhang	10	73.47	62.15	68.84	56.40	65.93	54.30	66.72	55.14	63.44	53.90	5.03×10^{-1}
	30	92.03	81.97	89.26	77.71	88.09	75.72	88.97	77.23	85.14	75.21	
	60	95.42	85.13	93.70	81.83	91.54	80.01	92.60	80.90	88.73	78.36	
	120	97.11	85.89	95.98	85.07	94.33	84.20	95.79	85.11	93.87	83.25	
	240	98.39	87.55	97.55	86.28	95.99	85.49	96.20	85.97	95.01	83.92	
	480	98.76	88.12	98.42	87.98	96.13	85.85	96.87	86.19	95.26	84.78	
Bae	10	60.39	59.22	57.98	58.94	55.61	53.77	59.17	58.56	54.30	53.88	119.62
	30	95.88	95.30	88.49	87.21	83.12	83.57	85.99	86.13	80.22	79.37	
	60	96.31	96.26	93.38	93.66	86.40	87.78	90.37	91.02	84.05	83.98	
	120	98.44	98.55	97.10	96.89	89.77	89.30	93.64	92.23	87.29	88.02	
	240	99.10	99.13	98.73	98.78	92.71	92.16	95.49	94.67	90.55	89.98	
	480	99.98	99.98	99.98	99.98	94.33	93.74	97.64	95.88	92.41	93.65	
Zenith	10	80.11	78.66	72.31	68.17	77.99	75.30	78.12	77.93	63.19	60.94	9.87×10^{-3}
	30	97.32	97.10	95.22	94.87	95.79	95.60	95.81	95.44	93.72	93.11	
	60	97.79	97.61	96.13	95.74	96.72	96.43	96.70	96.23	95.11	94.98	
	120	98.53	98.30	98.11	98.02	97.69	97.56	97.83	97.75	96.99	96.77	
	240	99.84	99.82	99.64	99.59	98.73	98.41	98.94	98.88	98.34	98.11	
	480	99.98	99.98	99.98	99.98	99.87	99.54	99.88	99.73	99.42	99.33	