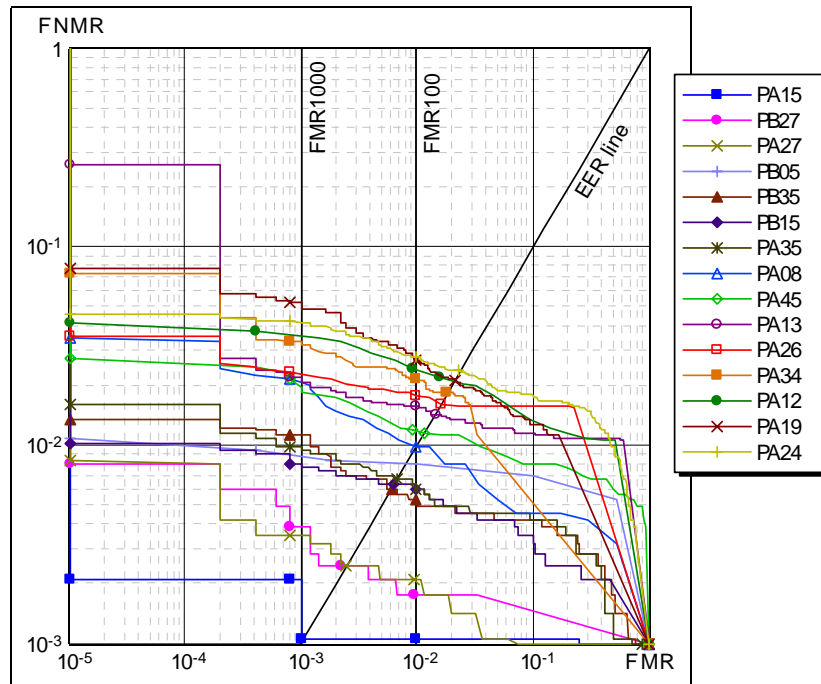


FVC2002 - Results (Summary)

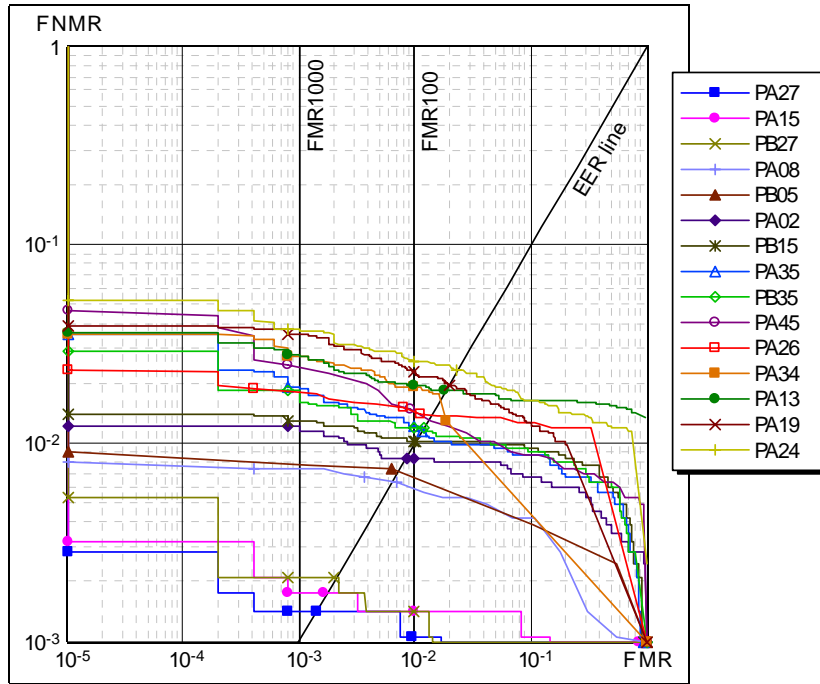
ID	Organization	Type
PA02	Andrey Nikiforov (Independent Developer)	Other
PA03	<anonymous>	Academy
PA07	Antheus Tecnologia Ltda	Industry
PA08	Neurotehnologija Ltd.	Industry
PA10	Aldebaran Systems	Industry
PA12	<anonymous>	Industry
PA13	Deng Guoqiang (Independent Developer)	Other
PA14	ActivCard Canada	Industry
PA15	Bioscrypt Inc.	Industry
PA16	University of Tehran, Electrical and Computer department	Academy
PA18	<anonymous>	Industry
PA19	<anonymous>	Industry
PA20	Department of Computer Science and Information Engineering, Da-Yeh University	Academy
PA21	Inha University	Academy
PA22	AILab, Institute of Automation, The Chinese Academy of Sciences	Academy
PA24	Biometrics System Lab, Beijing University of Posts and Telecommunications	Academy
PA25	<anonymous>	Other
PA26	Suprema Inc.	Industry
PA27	<anonymous>	Industry
PA28	FINGERPIN AG	Industry
PA29	HZMS Biometrics Co. Ltd	Other
PA31	TeKey Research Group	Industry
PA32	DATAMICRO Co. Ltd.	Industry
PA34	<anonymous>	Industry
PA35	SAGEM	Industry
PA42	Digital Fingerpass Corporation	Industry
PA45	IDENCOM AG	Industry
PB05	Siemens AG	Industry
PB15	Bioscrypt Inc.	Industry
PB27	<anonymous>	Industry
PB35	SAGEM	Industry

DB1_A



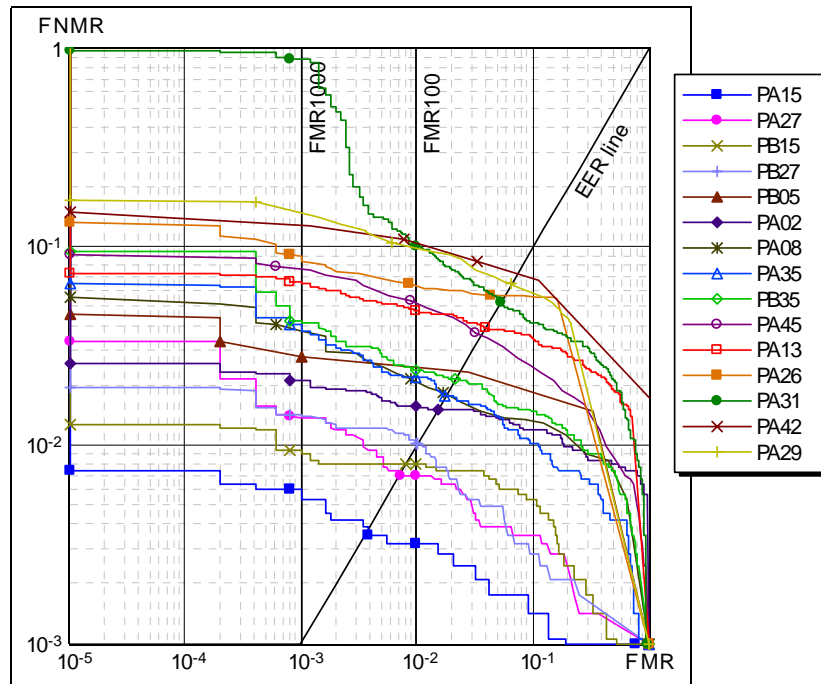
Algorithm	EER	FMR 100	FMR 1000	Zero FMR	REJ _{ENROLL}	REJ _{MATCH}	Avg Enroll Time	Avg Match Time
PA15	0.10%	0.11%	0.21%	0.21%	0.00%	0.00%	0.12 sec	2.47 sec
PB27	0.24%	0.18%	0.39%	0.82%	0.00%	0.00%	1.30 sec	1.15 sec
PA27	0.25%	0.21%	0.36%	0.86%	0.00%	0.00%	2.26 sec	1.99 sec
PB05	0.52%	0.86%	0.96%	1.11%	0.00%	0.00%	0.54 sec	0.58 sec
PB35	0.61%	0.54%	1.14%	1.36%	0.00%	0.00%	0.92 sec	0.76 sec
PB15	0.63%	0.61%	0.82%	1.04%	0.00%	0.00%	0.07 sec	0.24 sec
PA35	0.67%	0.61%	1.00%	1.64%	0.00%	0.00%	4.82 sec	1.97 sec
PA08	0.98%	1.00%	2.21%	3.50%	0.00%	0.00%	0.52 sec	0.52 sec
PA45	1.17%	1.21%	2.21%	2.79%	0.00%	0.00%	0.55 sec	0.67 sec
PA13	1.46%	1.61%	2.25%	26.36%	0.00%	0.04%	0.17 sec	0.44 sec
PA26	1.63%	1.79%	2.36%	3.57%	0.00%	0.00%	0.53 sec	0.61 sec
PA34	1.85%	2.18%	3.39%	7.43%	0.00%	0.00%	0.56 sec	0.68 sec
PA12	1.91%	2.46%	3.82%	4.18%	0.00%	0.00%	0.26 sec	0.27 sec
PA19	2.15%	2.75%	5.32%	7.96%	0.00%	0.00%	0.19 sec	0.20 sec
PA24	2.36%	2.82%	4.29%	4.64%	0.00%	0.00%	0.58 sec	0.60 sec
PA02	2.57%	2.68%	3.25%	3.82%	1.29%	0.80%	0.83 sec	1.29 sec
PA14	2.70%	3.29%	5.64%	7.93%	0.00%	0.00%	0.80 sec	1.84 sec
PA29	2.72%	4.46%	7.14%	8.93%	0.00%	0.00%	0.67 sec	0.68 sec
PA32	3.02%	3.75%	5.64%	9.07%	0.29%	0.18%	0.34 sec	0.59 sec
PA07	3.74%	6.86%	13.29%	18.68%	0.00%	0.00%	0.21 sec	0.61 sec
PA31	3.85%	6.11%	10.75%	21.57%	0.00%	0.01%	0.01 sec	3.16 sec
PA10	4.37%	4.71%	5.29%	5.79%	0.00%	0.00%	1.91 sec	1.91 sec
PA28	4.78%	9.43%	17.64%	20.89%	0.00%	0.00%	0.52 sec	0.87 sec
PA21	4.97%	7.21%	15.04%	21.04%	1.00%	0.71%	0.69 sec	0.74 sec
PA18	6.12%	13.75%	13.75%	19.39%	0.43%	0.04%	0.70 sec	0.71 sec
PA20	6.71%	9.39%	12.39%	15.86%	0.00%	0.00%	0.13 sec	0.16 sec
PA42	8.27%	16.96%	23.86%	33.14%	0.86%	0.54%	0.51 sec	0.52 sec
PA16	16.28%	24.00%	28.11%	40.82%	0.00%	0.12%	1.22 sec	1.24 sec
PA22	17.34%	40.39%	54.07%	60.93%	0.00%	0.79%	0.59 sec	0.68 sec
PA25	35.00%	83.96%	93.14%	98.64%	0.57%	0.14%	0.56 sec	0.67 sec
PA03	50.00%	100.00%	100.00%	100.00%	0.00%	100.00%	7.59 sec	5.01 sec

DB2_A



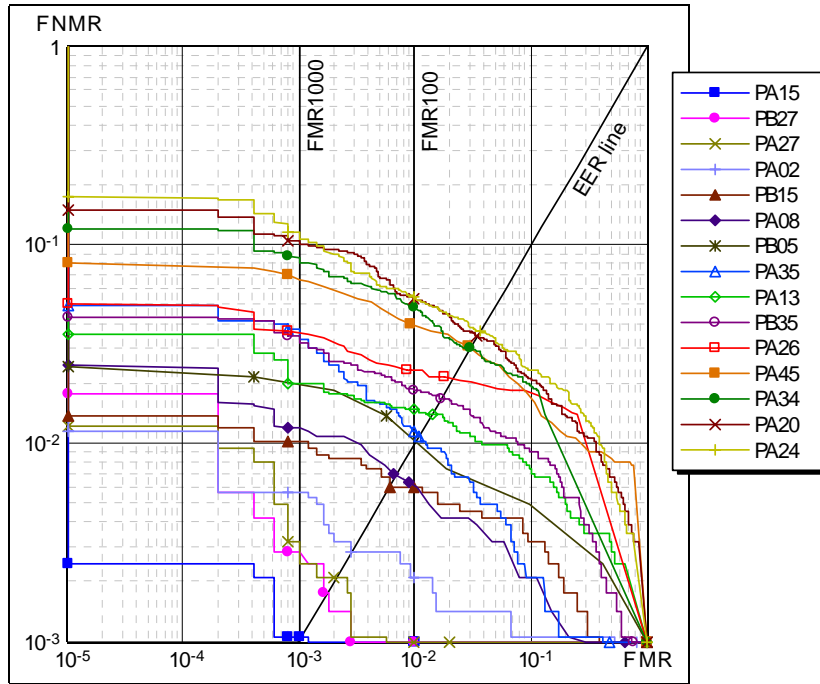
Algorithm	EER	FMR 100	FMR 1000	Zero FMR	REJ _{ENROLL}	REJ _{MATCH}	Avg Enroll Time	Avg Match Time
PA27	0.14%	0.11%	0.14%	0.29%	0.00%	0.00%	2.01 sec	2.03 sec
PA15	0.17%	0.14%	0.18%	0.32%	0.00%	0.00%	0.13 sec	2.44 sec
PB27	0.21%	0.14%	0.21%	0.54%	0.00%	0.00%	1.15 sec	1.12 sec
PA08	0.52%	0.64%	0.75%	0.82%	0.00%	0.00%	0.67 sec	0.68 sec
PB05	0.69%	0.75%	0.93%	0.93%	0.00%	0.00%	0.59 sec	0.65 sec
PA02	0.85%	0.86%	1.25%	1.25%	0.00%	0.00%	0.99 sec	1.62 sec
PB15	1.03%	1.04%	1.32%	1.43%	0.00%	0.00%	0.08 sec	0.24 sec
PA35	1.18%	1.25%	1.96%	3.61%	0.00%	0.00%	5.15 sec	2.02 sec
PB35	1.21%	1.21%	1.86%	2.93%	0.00%	0.00%	0.96 sec	0.84 sec
PA45	1.21%	1.50%	2.54%	4.79%	0.00%	0.00%	0.70 sec	0.88 sec
PA26	1.28%	1.54%	1.93%	2.39%	0.00%	0.00%	0.70 sec	0.80 sec
PA34	1.61%	1.96%	2.79%	3.61%	0.00%	0.00%	0.59 sec	0.72 sec
PA13	1.85%	2.00%	2.82%	3.68%	0.00%	0.50%	0.23 sec	0.76 sec
PA19	1.99%	2.32%	3.57%	3.96%	0.00%	0.00%	0.26 sec	0.27 sec
PA24	2.35%	2.64%	3.79%	5.36%	0.14%	0.09%	0.68 sec	0.70 sec
PA29	2.71%	3.82%	6.14%	8.07%	0.00%	0.00%	0.92 sec	0.95 sec
PA07	2.78%	3.21%	8.11%	12.75%	0.00%	0.00%	0.29 sec	0.84 sec
PA12	2.89%	3.54%	5.11%	5.89%	0.00%	0.00%	0.30 sec	0.32 sec
PA14	3.03%	3.93%	5.50%	8.39%	0.00%	0.00%	0.80 sec	1.85 sec
PA21	3.48%	4.89%	7.96%	12.89%	0.43%	1.55%	0.99 sec	1.05 sec
PA32	3.71%	5.32%	9.18%	12.29%	0.14%	0.13%	0.46 sec	0.96 sec
PA42	4.12%	6.86%	11.75%	14.04%	0.14%	0.09%	0.66 sec	0.69 sec
PA18	4.24%	8.00%	9.86%	20.96%	0.00%	0.00%	0.76 sec	0.79 sec
PA28	4.33%	10.21%	22.14%	41.71%	0.00%	0.00%	0.67 sec	1.11 sec
PA31	4.71%	11.39%	99.89%	100.00%	0.00%	0.00%	0.01 sec	3.19 sec
PA10	7.86%	8.86%	9.50%	9.96%	0.00%	0.00%	1.61 sec	1.60 sec
PA20	15.92%	21.00%	24.32%	26.36%	0.00%	0.00%	0.19 sec	0.23 sec
PA22	16.29%	48.46%	63.04%	81.25%	0.00%	0.12%	0.78 sec	0.89 sec
PA16	18.69%	28.64%	35.64%	52.54%	0.00%	0.88%	1.63 sec	1.67 sec
PA25	35.18%	80.96%	93.68%	98.86%	3.57%	2.15%	0.73 sec	0.85 sec
PA03	50.00%	100.00%	100.00%	100.00%	0.00%	100.00%	7.52 sec	5.01 sec

DB3_A



Algorithm	EER	FMR 100	FMR 1000	Zero FMR	REJ _{ENROLL}	REJ _{MATCH}	Avg Enroll Time	Avg Match Time
PA15	0.37%	0.32%	0.61%	0.75%	0.00%	0.00%	0.08 sec	2.24 sec
PA27	0.72%	0.71%	1.43%	3.36%	0.00%	0.01%	1.93 sec	1.86 sec
PB15	0.81%	0.82%	0.96%	1.29%	0.00%	0.00%	0.07 sec	0.25 sec
PB27	1.02%	1.04%	1.46%	2.00%	0.00%	0.00%	1.31 sec	1.20 sec
PB05	1.48%	2.86%	3.39%	4.64%	0.00%	0.00%	0.33 sec	0.36 sec
PA02	1.54%	1.61%	2.14%	2.64%	0.00%	0.00%	0.62 sec	0.89 sec
PA08	1.78%	2.18%	4.11%	5.61%	0.00%	0.00%	0.35 sec	0.35 sec
PA35	1.78%	2.25%	4.11%	6.57%	0.00%	0.00%	2.77 sec	1.21 sec
PB35	2.17%	2.43%	4.29%	9.71%	0.00%	0.00%	0.53 sec	0.48 sec
PA45	3.48%	5.46%	8.00%	9.21%	0.00%	0.00%	0.38 sec	0.43 sec
PA13	3.99%	4.86%	6.82%	7.50%	0.00%	0.00%	0.12 sec	0.35 sec
PA26	5.08%	6.61%	9.21%	13.46%	0.00%	0.00%	0.37 sec	0.44 sec
PA31	5.36%	10.29%	89.86%	98.07%	0.00%	0.00%	0.01 sec	3.18 sec
PA42	5.97%	11.00%	15.32%	15.32%	0.86%	0.63%	0.35 sec	0.36 sec
PA29	6.59%	10.57%	17.18%	17.36%	0.00%	0.00%	0.47 sec	0.47 sec
PA24	6.62%	9.68%	14.18%	20.43%	0.14%	0.09%	0.36 sec	0.36 sec
PA10	6.69%	9.18%	10.54%	11.25%	0.00%	0.00%	1.91 sec	1.91 sec
PA34	6.77%	9.82%	15.14%	20.29%	0.00%	0.00%	0.48 sec	0.58 sec
PA07	7.75%	17.32%	26.21%	32.89%	0.00%	0.00%	0.15 sec	0.30 sec
PA19	8.17%	14.61%	20.29%	26.14%	0.00%	0.00%	0.13 sec	0.13 sec
PA21	9.36%	16.54%	25.71%	54.89%	0.29%	0.26%	0.90 sec	0.92 sec
PA28	9.85%	26.04%	42.64%	72.32%	0.00%	0.00%	0.32 sec	0.48 sec
PA20	10.03%	18.82%	25.21%	33.96%	0.00%	0.00%	0.10 sec	0.12 sec
PA14	10.85%	15.79%	19.68%	21.18%	0.00%	0.00%	0.53 sec	1.46 sec
PA32	14.25%	23.04%	31.04%	36.00%	1.00%	2.04%	0.26 sec	0.31 sec
PA12	14.46%	25.75%	32.43%	35.68%	0.29%	0.18%	0.16 sec	0.17 sec
PA22	14.96%	39.07%	53.71%	69.43%	0.00%	0.00%	0.41 sec	0.47 sec
PA16	18.65%	28.82%	37.14%	45.54%	0.00%	0.43%	0.83 sec	0.84 sec
PA18	27.84%	61.04%	61.04%	62.96%	2.71%	1.41%	0.62 sec	0.63 sec
PA25	42.25%	96.96%	99.68%	99.96%	3.43%	2.95%	0.37 sec	0.45 sec
PA03	50.00%	100.00%	100.00%	100.00%	0.00%	100.00%	6.31 sec	5.01 sec

DB4_A



Algorithm	EER	FMR 100	FMR 1000	Zero FMR	REJ _{ENROLL}	REJ _{MATCH}	Avg Enroll Time	Avg Match Time
PA15	0.10%	0.04%	0.11%	0.25%	0.00%	0.00%	0.12 sec	0.73 sec
PB27	0.17%	0.00%	0.29%	1.79%	0.00%	0.00%	1.17 sec	1.06 sec
PA27	0.21%	0.07%	0.32%	1.25%	0.00%	0.00%	2.28 sec	2.04 sec
PA02	0.28%	0.21%	0.57%	1.18%	0.00%	0.00%	0.80 sec	1.14 sec
PB15	0.61%	0.61%	1.04%	1.39%	0.00%	0.00%	0.07 sec	0.17 sec
PA08	0.68%	0.64%	1.21%	2.50%	0.00%	0.00%	0.68 sec	0.68 sec
PB05	0.98%	1.39%	2.18%	2.46%	0.00%	0.00%	0.47 sec	0.50 sec
PA35	1.10%	1.18%	3.79%	5.04%	0.00%	0.00%	3.44 sec	1.42 sec
PA13	1.42%	1.50%	2.04%	3.61%	0.00%	0.00%	0.14 sec	0.37 sec
PB35	1.71%	1.86%	3.54%	4.39%	0.00%	0.00%	0.65 sec	0.56 sec
PA26	1.99%	2.39%	3.71%	5.14%	0.00%	0.00%	0.58 sec	0.66 sec
PA45	3.03%	4.04%	7.11%	8.29%	0.00%	0.00%	0.47 sec	0.52 sec
PA34	3.03%	4.89%	8.89%	12.25%	0.00%	0.00%	0.50 sec	0.61 sec
PA20	3.50%	5.43%	10.75%	15.11%	0.00%	0.00%	0.10 sec	0.11 sec
PA24	3.70%	5.54%	11.68%	17.71%	0.00%	0.00%	0.69 sec	0.68 sec
PA14	4.28%	6.07%	8.11%	9.25%	0.00%	0.00%	0.61 sec	1.89 sec
PA19	4.45%	6.21%	9.21%	14.68%	0.00%	0.00%	0.14 sec	0.15 sec
PA29	4.91%	9.18%	14.32%	26.21%	0.00%	0.00%	0.54 sec	0.54 sec
PA28	5.24%	16.64%	44.89%	59.07%	0.00%	0.00%	0.40 sec	0.60 sec
PA10	5.71%	7.89%	10.21%	11.96%	0.00%	0.00%	1.81 sec	1.81 sec
PA32	5.89%	9.75%	14.25%	15.68%	0.14%	1.37%	0.27 sec	0.38 sec
PA21	6.45%	14.43%	25.75%	45.93%	0.00%	0.00%	0.62 sec	0.65 sec
PA42	7.26%	10.36%	13.11%	16.96%	2.29%	5.24%	0.42 sec	0.42 sec
PA07	7.56%	20.14%	34.61%	37.57%	0.00%	0.00%	0.17 sec	0.40 sec
PA31	8.97%	100.00%	100.00%	100.00%	0.00%	0.00%	0.01 sec	3.06 sec
PA12	9.21%	16.18%	24.07%	34.71%	0.00%	0.00%	0.21 sec	0.36 sec
PA22	10.05%	24.43%	43.46%	49.68%	0.00%	0.09%	0.49 sec	0.56 sec
PA18	10.17%	28.36%	32.04%	43.04%	0.29%	0.14%	0.65 sec	0.66 sec
PA16	13.53%	23.71%	30.96%	36.57%	0.00%	0.70%	0.98 sec	1.00 sec
PA25	43.96%	99.43%	99.86%	99.89%	2.43%	1.97%	0.44 sec	0.54 sec
PA03	50.00%	100.00%	100.00%	100.00%	0.00%	100.00%	6.79 sec	5.01 sec

Average results over all databases

Algorithm	Avg EER	Avg FMR 100	Avg FMR 1000	Avg Zero FMR	Avg REJ _{ENROLL}	Avg REJ _{MATCH}	Avg Enroll Time	Avg Match Time
PA15	0.19%	0.15%	0.28%	0.38%	0.00%	0.00%	0.11 sec	1.97 sec
PA27	0.33%	0.28%	0.56%	1.44%	0.00%	0.00%	2.12 sec	1.98 sec
PB27	0.41%	0.34%	0.59%	1.29%	0.00%	0.00%	1.23 sec	1.13 sec
PB15	0.77%	0.77%	1.04%	1.29%	0.00%	0.00%	0.07 sec	0.22 sec
PB05	0.92%	1.46%	1.87%	2.29%	0.00%	0.00%	0.48 sec	0.52 sec
PA08	0.99%	1.12%	2.07%	3.11%	0.00%	0.00%	0.56 sec	0.56 sec
PA35	1.18%	1.32%	2.71%	4.21%	0.00%	0.00%	4.05 sec	1.65 sec
PA02	1.31%	1.34%	1.80%	2.22%	0.32%	0.20%	0.81 sec	1.23 sec
PB35	1.42%	1.51%	2.71%	4.60%	0.00%	0.00%	0.77 sec	0.66 sec
PA13	2.18%	2.49%	3.48%	10.29%	0.00%	0.14%	0.17 sec	0.48 sec
PA45	2.22%	3.05%	4.96%	6.27%	0.00%	0.00%	0.52 sec	0.62 sec
PA26	2.50%	3.08%	4.30%	6.14%	0.00%	0.00%	0.54 sec	0.63 sec
PA34	3.31%	4.71%	7.55%	10.89%	0.00%	0.00%	0.53 sec	0.65 sec
PA24	3.76%	5.17%	8.48%	12.04%	0.07%	0.05%	0.57 sec	0.59 sec
PA19	4.19%	6.47%	9.60%	13.19%	0.00%	0.00%	0.18 sec	0.18 sec
PA29	4.24%	7.01%	11.20%	15.14%	0.00%	0.00%	0.65 sec	0.66 sec
PA14	5.21%	7.27%	9.73%	11.69%	0.00%	0.00%	0.68 sec	1.76 sec
PA07	5.46%	11.88%	20.55%	25.47%	0.00%	0.00%	0.20 sec	0.54 sec
PA31	5.72%	31.95%	75.12%	79.91%	0.00%	0.00%	0.01 sec	3.15 sec
PA28	6.05%	15.58%	31.83%	48.50%	0.00%	0.00%	0.48 sec	0.77 sec
PA21	6.07%	10.77%	18.62%	33.69%	0.43%	0.63%	0.80 sec	0.84 sec
PA10	6.16%	7.66%	8.88%	9.74%	0.00%	0.00%	1.81 sec	1.81 sec
PA42	6.40%	11.29%	16.01%	19.87%	1.04%	1.63%	0.49 sec	0.50 sec
PA32	6.72%	10.46%	15.03%	18.26%	0.39%	0.93%	0.33 sec	0.56 sec
PA12	7.12%	11.98%	16.36%	20.12%	0.07%	0.05%	0.24 sec	0.28 sec
PA20	9.04%	13.66%	18.17%	22.82%	0.00%	0.00%	0.13 sec	0.15 sec
PA18	12.09%	27.79%	29.17%	36.59%	0.86%	0.40%	0.68 sec	0.70 sec
PA22	14.66%	38.09%	53.57%	65.32%	0.00%	0.25%	0.57 sec	0.65 sec
PA16	16.79%	26.29%	32.96%	43.87%	0.00%	0.53%	1.16 sec	1.19 sec
PA25	39.10%	90.33%	96.59%	99.34%	2.50%	1.81%	0.52 sec	0.63 sec
PA03	50.00%	100.00%	100.00%	100.00%	0.00%	100.00%	7.05 sec	5.01 sec

Rankings of the TOP 10 participants

(The TOP 10 are chosen according to AEER)

Accuracy indicators

A1 : EER

A2 : ZeroFMR

A3 : FMR1000

A4 : FMR100

Efficiency indicators

E1 : Average enroll time

E2 : Average match time

Alg	DB1						DB2						DB3						DB4					
	A1	A2	A3	A4	E1	E2	A1	A2	A3	A4	E1	E2	A1	A2	A3	A4	E1	E2	A1	A2	A3	A4	E1	E2
PA15	1	1	1	1	2	10	2	2	2	2	2	10	1	1	1	1	2	10	1	1	1	2	2	6
PA27	3	3	2	3	9	9	1	1	1	1	9	9	2	5	3	2	9	9	3	3	3	3	9	10
PB27	2	2	3	2	8	6	3	3	3	2	8	6	4	3	4	4	8	7	2	5	2	1	8	7
PB15	6	4	4	5	1	1	7	7	7	7	1	1	3	2	2	3	1	1	5	4	5	5	1	1
PB05	4	5	5	7	5	4	5	5	5	5	4	2	5	6	6	9	4	4	7	6	8	8	4	3
PA08	8	8	8	8	4	3	4	4	4	4	5	3	7	7	7	6	5	2	6	7	6	6	6	5
PA35	7	7	6	5	10	8	8	9	9	9	10	8	8	8	7	7	10	8	8	10	10	7	10	9
PA02	10	9	10	10	6	7	6	6	6	6	7	7	6	4	5	5	7	6	4	2	4	4	7	8
PB35	5	6	7	4	7	5	9	8	8	8	6	5	9	10	9	8	6	5	10	9	9	10	5	4
PA13	9	10	9	9	3	2	10	10	10	10	3	4	10	9	10	10	3	3	9	8	7	9	3	2

Medal table

Algorithm ID	Organization	Gold Medals	Silver Medals	Bronze Medals
PA15	Bioscrypt Inc.	11	9	0
PB15	Bioscrypt Inc.	8	2	2
PA27	<anonymous>	4	3	8
PB27	<anonymous>	1	6	5
PA13	Deng Guoquiang	0	2	5
PA08	Neurotechnologija Ltd.	0	1	2
PB05	Siemens AG	0	1	1
PA02	Andrey Nikiforov	0	1	0
PA35	SAGEM	0	0	0
PB35	SAGEM	0	0	0