## Summary Table of Mobile Behavioral Biometric Databases.

Acronyms: A = Accelerometer, Au = Audio, B = Bluetooth, Ba = Battery Level, C = Camera, °C = Temperature, CL = Call Logs, CT = Call Tower IDs, Gr = Gravity Sensor, Gy = Gyroscope, H = Handwriting, Hu = Humidity, K = Keystroke, L = Light, LA = Linear Accelerometer, Mi = Microphone, N = Network Logs, P = Pressure, Pr = Proximity, Sy = System Stats, T = Touchscreen, W = Wi-Fi.

| Dataset                                | Year | $Available^1$ | Unconstrained Env. <sup>2</sup> | # of Users | # of Devices | Data Modality   | Impostor Case      |
|--|------|---------------|---------------------------------|------------|--------------|---|--------------------|
| MIT Reality Mining [1]                 | 2006 | ✓             | ✓                               | 100        | 100          | $\mathrm{CL},\mathrm{B},\mathrm{CT},\mathrm{Ap}$                        | Different Device   |
| Saevanee $et~al~[2]$                   | 2008 | X             | ×                               | 10         | 1            | T   | Same Device        |
| Zahid et al. [3]                       | 2009 | X             | ×                               | 25         | 13           | T   | Not Considered     |
| Rice LiveLab Dataset [4]               | 2011 | ✓             | ✓                               | 34         | 18           | Ap, W   | Not Considered     |
| Frank $et~al.~[5]$                     | 2012 | X             | ✓                               | 41         | 4            | T   | Not Considered     |
| Serwadda et al. [6]                    | 2013 | ✓             | х                               | 190        | 1            | T   | Same Device        |
| Zhang et al. [7]                       | 2015 | Х             | Х                               | 50         | 1            | T, C  | Same Device        |
| Feng et al. [8]                        | 2014 | ×             | ✓                               | 123        | 3            | T   | Not Considered     |
| Xu et al. [9]                          | 2014 | X             | Х                               | 28         | 1            | Т, К, Н   | Same Device        |
| Saevanee et al. [10]                   | 2015 | Х             | ✓                               | 30         | ~30          | K, Ap, LP   | Different Device   |
| Hoang et al. [11]                      | 2015 | X             | ✓                               | 34         | 1            | A   | Same Device        |
| Neal et al. [12]                       | 2015 | Х             | ✓                               | 200        | ~200         | Ap, W, B  | Different Device   |
| Wu et al. [13]                         | 2015 | Х             | ✓                               | 100        | ~100         | K, P, A, G  | Different Device   |
| Nader et al. [14]                      | 2015 | Х             | Х                               | 20         | 1            | T   | Same Device        |
| Murmuria et al. [15]                   | 2015 | Х             | ✓                               | 73         | 1            | A, Gy, T, Ap, Ba  | Same Device        |
| Sitova et al. (HMOG) [16]              | 2015 | Х             | Х                               | 100        | 10           | T, A  | Not Considered     |
| Zaliva et al. [17]                     | 2015 | Х             | х                               | 14         | 1            | T   | Same Device        |
| Lu et Lio [18]                         | 2015 | Х             | ✓                               | 60         | 3            | T   | Not Considered     |
| Coakley et al. [19]                    | 2016 | /             | Х                               | 51         | 5            | K, A, G   | Not Considered     |
| Putri et al. [20]                      | 2016 | <b>✓</b>      | ×                               | 29         | 1            | T   | Same Device        |
| Kumar et al. [21]                      | 2016 | Х             | Х                               | 28         | -            | T, K, A, G  | Not Considered     |
| Shen et al. [22]                       | 2016 | Х             | Х                               | 71         | 3            | T   | Not Considered     |
| Google Abacus Dataset [23]             | 2016 | Х             | ✓                               | 1500       | ~1500        | C, T, A, Gy, M, W   | Different Device   |
| Antal et al. [24]                      | 2016 | Х             | Х                               | 71         | 8            | T, A  | Not Considered     |
| Nixon et al. [25]                      | 2016 | Х             | <b>√</b>                        | 20         | ~20          | T, A, Gy  | Different Device   |
| Buriro et al. [26]                     | 2016 | ×             | ×                               | 30         | 1            | T, A, M, Gy   | Same Device        |
| Mahbub et al. [27] (UMDAA-02)          |      |               |                                 |            |              | T, C, A, GPS, B,  |                    |
|  | 2016 | 1             | ✓                               | 48         | -            | W, L, P, °C, Pr   | Not Considered     |
| Lee and Lee [28]                       | 2017 | Х             | ✓                               | 35         | 2            | A, Gy   | Not Considered     |
| Zhu et al. [29]                        | 2017 | Х             | Х                               | 20         | -            | A, Gy   | Not Considered     |
| Al Kork et al. [30]                    | 2017 | Х             | ✓                               | 50         | 2            | A, Gy   | Not Considered     |
| Li and Bours [31]                      | 2018 | Х             | ✓                               | 312        | ~312         | W, A  | Different Device   |
| Amini et al. [32] (TargetAuth Dataset) | 2018 | Х             | х                               | 47         | -            | A, Gy   | Not Considered     |
| Cilia et al. [33]                      | 2018 | Х             | Х                               | 24         | 2            | K   | Not Considered     |
| Aalto University Dataset [34]          | 2019 | /             | <b>√</b>                        | ~260k      | -            | K   | Not Considered     |
| Zhu et al. [35]                        | 2019 | Х             | Mixed                           | 1513       | 4            | A, Gy, Gr   | Not Considered     |
| Garbuz et al. [36]                     | 2019 | Х             | Х                               | 36         | 1            | T, A, Gy  | Same Device        |
| Vajdi et al. [37]                      | 2019 | /             | Х                               | 93         | 2            | A   | Not Considered     |
| Deb et al. [38]                        | 0010 |               |                                 |            |              | K, GPS, A, Gy,  | N + C · · · · ·    |
|  | 2019 | ×             | ✓                               | 37         | 30           | M, LA, Gr, Gy   | Not Considered     |
| Acien et al. [39] (HuMIdb)             | 2020 | 1             | 1                               | 600        | 600          | A, Gr, Gy, L, LA, M, O,   | Different Device   |
|  |      |               |                                 |            |              | $\mathrm{Pr},\mathrm{L},\mathrm{GPS},\mathrm{W},\mathrm{B},\mathrm{Mi}$ |                    |
| Current Work (BehavePassDB)            | 2022 | 1             | 1                               | 81         | 81           | A, Gr, Gy, L, LA, M, O, P   | Different and Same |
|  |      |               |                                 |            |              | Pr, L, GPS, W, B, $^{\circ}$ C, Ba, Hu                                  | Device (Skilled)   |

Publicly Available.

 $<sup>^{2}</sup>$  Unconstrained Environment, i.e., the subjects participating in the study did not receive instructions on how to perform the data collection process.

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