**Differential Expression Benchmarks**

**R Implementation Versions**

RStudio: 2023.09.1+494

R: 4.3.2 for Windows

[DESeq2](https://bioconductor.org/packages/release/bioc/html/DESeq2.html): 3.18

**Python Implementation Versions**

Pyodide: 0.23.4 (Python 3.9)

**Datasets**

Ivan: 60663 genes x 8 samples

Brain UMAP: 19979 genes x 282 samples

**Benchmarks**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ID** | **Implementation** | **Dataset** | **# runs** | **Avg Runtime** |
| 2 | Python (Ivan’s pkg) | Ivan | 1 | 1m 53s |
| 3 | R | Ivan | 1 | 0m 8s |
| 4 | Python (Ivan’s pkg) | Brain-UMAP (Int) | 2 | 3m 25s |
| 5 | R | Brain-UMAP (Int) | 1 | 0m 48s |
| 6 | Python (Original) | Brain-UMAP (Int) | 1 | 1m 8s |
| 7 |  |  |  |  |