Exercício - Tabela de comparação entre trabalhos

|  |  |  |  |
| --- | --- | --- | --- |
|  | [1] AI Accelerator With Ultralightweight TimePeriod CNN-Based Model for Arrhythmia Classification | [2] A Neural Network-Based ECG Classification Processor With Exploitation of Heartbeat Similarity | [3] An Efficient Unstructured Sparse Convolutional Neural Network Accelerator for Wearable ECG Classification Device |
| ML Technique | CNN | CNN | CNN |
| Tecnology | 180nm | 40 nm | 40 nm |
| Circuit style |  |  |  |
| Resolution | 16-bit | 8-bit | 32-bit |
| Supply Voltage | 1.8V | 1.1V | 1.1V |
| Energy Efficiency | 0.83 (mJ/classification) | 2.78  (µJ/classification) | 3.93 (µJ/classification) |
| Relacionadas a velocidade: |  |  |  |
| - Operations/s |  | 7,49 GOPS | 271GOP/s/W |
| - Inferences/s | 6.8 ms per classification | 1.3 ms per classification | 4.6 ms per classification |
| - Max. Frequency | 1MHz | 100 MHz | 2MHz |

[1] LEE, Shuenn-Yuh et al. AI Accelerator with Ultralightweight Time-Period CNN-Based Model for Arrhythmia Classification. **IEEE transactions on biomedical circuits and systems**, 2024.

[2] WU, Jiaquan et al. A neural network-based ECG classification processor with exploitation of heartbeat similarity. **IEEE Access**, v. 7, p. 172774-172782, 2019.

[3] LU, Jiahao et al. An efficient unstructured sparse convolutional neural network accelerator for wearable ECG classification device. **IEEE Transactions on Circuits and Systems I: Regular Papers**, v. 69, n. 11, p. 4572-4582, 2022.

Aluno: Lucas da Silva Alves