Homework

Description of the literature

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Submission date: October 8, 2022

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1 Elements of TinyML on Constrained Resource Hardware

Keywords: IoT, TinyML, Neural networks, Deep Learning Algotithms, Arduino Nano 33 BLE Sense, Quantization Training

The article presents three TinyML applications by using the Arduino Nano 33 BLE Sense that can provide trustworthy data from IoT to the cloud for Neural Network data processing algorithms. Implementations given are all related to temperature sensing and alerting under given conditions: Temperature Classification, Anomaly Detection and Weather Forecasting.[TGK22]

The article gives usage examples with result by using TinymL (Arduino Nano 3 BLE Sense) with little results, and few details on the SW implementation. It clearly specifies the algorithms implemented. Therefore it is good to get an idea of possible projects that can be developed under this technology. However, if you are looking for solutions to an specific HW or SW issue, this may lack information.

Bibliography

[TGK22] V. Tsoukas, A. Gkogkidis, and A. Kakarountas, "Elements of tinyml on constrained resource hardware," in *Advances in Computing and Data Sciences*, M. Singh, V. Tyagi, P. K. Gupta, J. Flusser, and T. Ören, Eds., Cham, Switzerland: Springer International Publishing, 2022, pp. 316–331, ISBN: 978-3-031-12641-3. DOI: 10.1007/978-3-031-12641-3_26.