Semester project 6
„Pattern Recognition with Memristor Oscillatory Neural Networks“

Topic: Digit Recognition with Memristor Oscillatory Neural Networks (MONNs)
Task: Design and simulation of MONNs employing locally active memristor based neurons for letter/digit recognition
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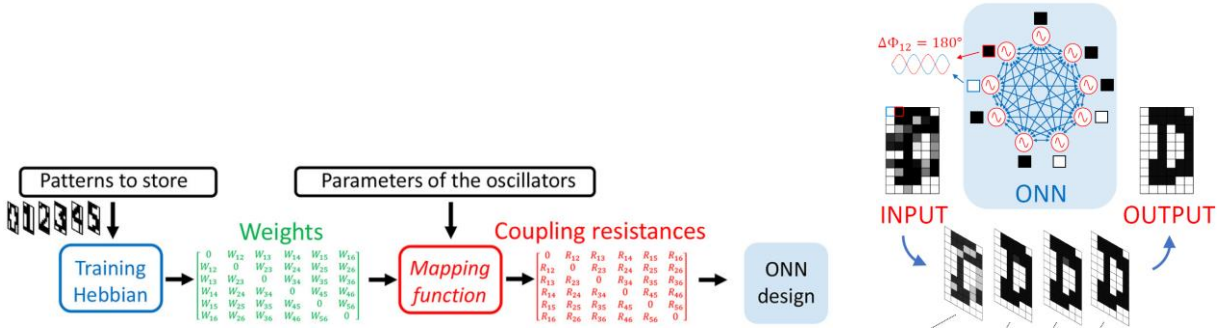
Task description:
1. Read the literature [1], [2].
2. Gain fundamental knowledge on Hopfield networks and associated learning rules, e.g. Hebbian learning rule.
3. Have fundamental knowledge on solving ODEs in Matlab/Phyton.
4. **Comment** each individual line of code in your implementation, such that the code can be understood without reading the report. Add a **Readme file** that explains how to use your implementation code.
5. **Submit** the commented implementation **code** as one ZIP file to your supervisor **before the examination**.



Literature:

[1] C. Delacour et al., "Oscillatory Neural Networks for Edge AI Computing," ISVLSI, Tampa, FL, USA, 2021, pp. 326-331, doi: 10.1109/ISVLSI51109.2021.00066

[2] E. Corti et al., “Coupled VO2 Oscillators Circuit as Analog First Layer Filter in Convolutional Neural Networks”, https://doi.org/10.3389/fnins.2021.628254