## To do list NNMHA Project 6 (discussion with project advisor on 09.12.2024):

### Step 1. write matlab code for multicell interconnection

-Solve differential equations according to the number of cells (for-loop)

A blue and white rectangular object with black text

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A chalkboard with formulas on it

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-Use component parameters from single cell with RS

A diagram of a circuit

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-T\_init remains 300, Vc\_init must be changed for the phase shift

- Vc\_init must be specified in another step (step….) i.e. different .m file (Vc\_init.m)

- RC must be specified in another step (step….) according to the mapping function i.e. different .m file (define\_RC.m)

- detect phase shift (i.e. after 5 periods) and compare with reff cell:

- classify the phase shift:

### Step 2. Define Vc\_init

-black/white input pixel refers to a different Vc\_init value (swapping value)

-define swapping point

-write matlab code (Vc\_init) according to the size of the image. Analyzing each pixel (black or white) and map the corresponding Vc\_init for each cell/pixel

### Step 3.Import binary image file in matlab

-image for the final result should not exceed 50 pixel

-import and read out binary image.txt file in matlab in order to define Vc\_init (Step 2.)

### Step 4. Create Image file

-use rectengular sized images (4x8 or 4x6)

-find website and create image manually

-at the beginning: use images which does not look similar (5-6 patterns)

### Step 5 train the network

-calculate the weight according to hebbian learning function

A person standing next to a chalkboard

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-create mapping functions which determine the resistance RC of each cell according to the weight calculation function (heabian learning function)

-try and compare following mapping functions: linear(change m and t for y = mx+t), non linear, exponential, sigmoid

-add noise to the input and check if the output is correct

A chalk drawing of two people pointing at a arrow

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