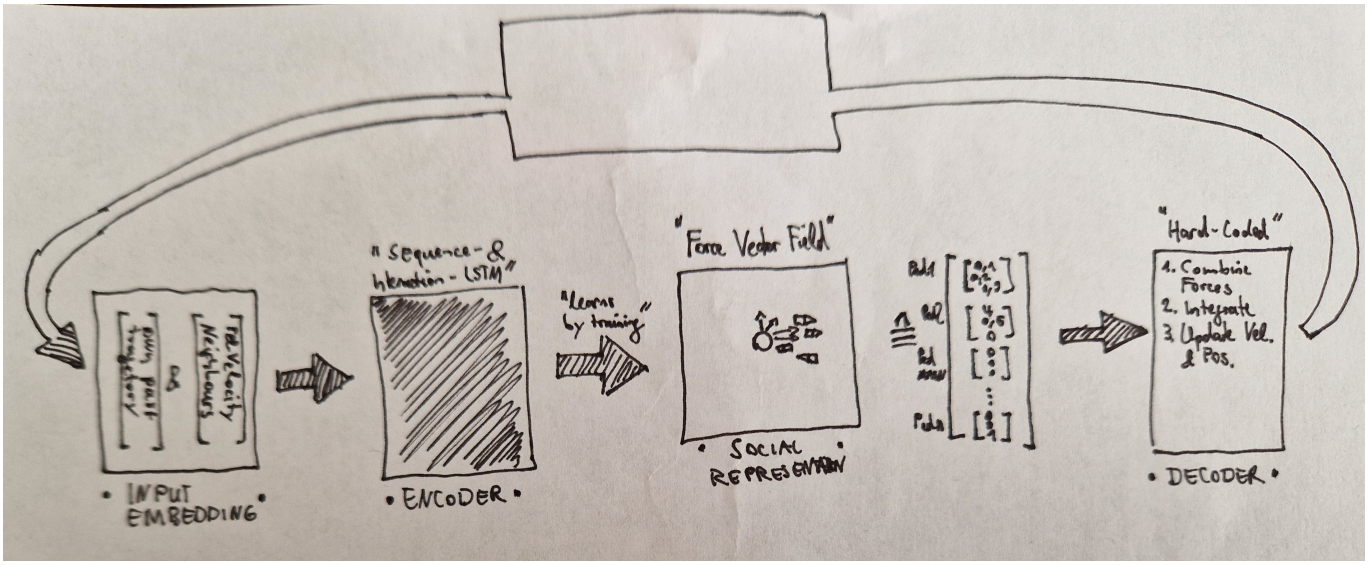
Report 5



Force Vector Field - Social Representation

(MAIN = Main Pedestrian/Vehicles, OTHER = One of the other Pedestrians/Vehicles)

- Designed by hand
- Shall be learned by the Encoder-LSTM

- **Design V0.1A:**
  - Each Output = Force to MAIN by OTHER
  - if #Outputs > #Pedestrians/#Vehicles 0 => all Outputs above = 0
  - **Flaws:**
    - if all forces are only combined at the end, the loss and training wont be able to "tell" the Encoder-LSTM anything about the purpose of the seperate forces in the multiple outputs => LSTM could already combine all forces into one output => Will not be able to learn this Social Representation
  - **Ideas:**
    - Let the outputs be only the direction of the forces
    - Manually add magnitude depending on for example distance
    - Might "show" Encoder-LSTM the difference between the seperate outputs

- **Design V0.1B:**
  - Start with a vector field that follows the road and direction of MAIN (or for now maybe just the initial direction of MAIN)
  - Each output = manipulation in the Vector Field by OTHER
  - #Outputs = "Resolution" of Vector Field
  - Each Output is one point in this resolution that can be manipulated

Currently working on:

- Changing Linear Layer of Encoder to fit the output shape

Next Steps:

- Depending on which design, hard-code the decoder to interpret the output of the encoder as a force field