# Homework 3

# SGNS in Computation Graphs

- Learning goals:
  - Deepen understanding / familiarity with computation graphs
  - Develop understanding of back propagation
  - Implement several operations in forward/backward API

# Written: Computation Graphs

- With a simple example:
  - Draw graph
  - Run forward pass and backpropagation by hand
  - Get used to upstream/local/downstream terminology

# Implementation: SGNS in edugrad

- Implementing Skip-gram with Negative Sampling in edugrad, a minimal / bare-bones implementation of the PyTorch API
- Components: sigmoid, log, element-wise multiplication, dot products
  - As operations, with forward/backward API
  - See slides on website for more on edugrad