Latex macros

In [1]:

```
%%latex
$$
\newcommand{\x}{\mathbf{x}}
\newcommand{\tx}{\tilde{\x}}
\newcommand{\y}{\mathbf{y}}
\newcommand{\b}{\mathbf{b}}
\newcommand{\c}{\mathbf{c}}
\newcommand{\e}{\mathbf{e}}
\newcommand{\z}{\mathbf{z}}
\newcommand{\h}{\mathbf{h}}
\newcommand{\u}{\mathbf{u}}
\newcommand{\v}{\mathbf{v}}
\newcommand{\w}{\mathbf{w}}
\newcommand{\V}{\mathbf{V}}
\newcommand{\W}{\mathbf{W}}
\newcommand{\X}{\mathbf{X}}
\newcommand{\KL}{\mathbf{KL}}
\newcommand{\E}{{\mathbb{E}}}
\newcommand{\Reals}{{\mathbb{R}}}
\newcommand{\ip}{\mathbf{{(i)}}}
%
% Test set
\newcommand{\xt}{\underline{\x}}
\newcommand{\yt}{\underline{\y}}
\newcommand{\Xt}{\underline{\X}}
\newcommand{\perfm}{\mathcal{P}}
%
% \ll indexes a layer; we can change the actual letter
\newcommand{\ll}{l}
\newcommand{\llp}{{(\ll)}}
%
\newcommand{Thetam}{\Theta_{-0}}

% CNN
\newcommand{\kernel}{\mathbf{k}}
```

```
\newcommand{\dim}{d}
\newcommand{\idxspatial}{{\text{idx}}}
\newcommand{\summaxact}{\text{max}}
\newcommand{idxb}{\mathbf{i}}
%
%

% RNN
% \tt indexes a time step
\newcommand{\tt}{t}
\newcommand{\tp}{{(\tt)}}
%
%

% LSTM
\newcommand{\g}{\mathbf{g}}
\newcommand{\remember}{\mathbf{remember}}
\newcommand{\save}{\mathbf{save}}
\newcommand{\focus}{\mathbf{focus}}
%
%
% NLP
\newcommand{\Vocab}{\mathbf{V}}
\newcommand{\v}{\mathbf{v}}
\newcommand{\offset}{o}
\newcommand{\o}{o}
\newcommand{\Emb}{\mathbf{E}}
%
%
\newcommand{\loss}{\mathcal{L}}
\newcommand{\cost}{\mathcal{L}}
%
%
\newcommand{\pdata}{p_\text{data}}
\newcommand{\pmodel}{p_\text{model}}
%
```

```
% SVM
\newcommand{\margin}{{\mathbb{m}}}
\newcommand{\lmk}{\boldsymbol{\ell}}
%
%
% LLM Reasoning
\newcommand{\rat}{\mathbf{r}}
\newcommand{\model}{\mathcal{M}}
\newcommand{\bthink}{\text{<think>}}
\newcommand{\ethink}{\text{</think>}}
%
%
% Functions with arguments
\def\xsy#1#2{#1^#2}
\def\rand#1{\tilde{#1}}
\def\randx{\rand{\x}}
\def\randy{\rand{\y}}
\def\trans#1{\dot{#1}}
\def\transx{\trans{\x}}
\def\transy{\trans{\y}}
%
\def\argmax#1{\underset{#1} {\operatorname{argmax}} }
\def\argmin#1{\underset{#1} {\operatorname{argmin}} }
\def\max#1{\underset{#1} {\operatorname{max}} }
\def\min#1{\underset{#1} {\operatorname{min}} }
%
\def\pr#1{\mathcal{p}(#1)}
\def\prc#1#2{\mathcal{p}(#1 \; | \; #2)}
\def\cnt#1{\mathcal{count}_{#1}}
\def\node#1{\mathbb{#1}}
%
\def\loc#1{{\text{##} {#1}}}
%
\def\OrderOf#1{\mathcal{O}\left( {#1} \right)}
%
% Expectation operator
```

```
\def\Exp#1{\underset{#1} {\operatorname{\mathbb{E}}} }
%
% VAE
\def\prs#1#2{\mathcal{p}_{#2}(#1)}
\def\qr#1{\mathcal{q}(#1)}
\def\qrs#1#2{\mathcal{q}_{#2}(#1)}
%
% Reinforcement learning
\newcommand{\Actions}{{\mathcal{A}}}
\newcommand{\actseq}{A}
\newcommand{\act}{a}
\newcommand{\States}{{\mathcal{S}}}
\newcommand{\stateseq}{S}
\newcommand{\state}{s}
\newcommand{\Rewards}{{\mathcal{R}}}
\newcommand{\rewseq}{R}
\newcommand{\rew}{r}
\newcommand{\transp}{P}
\newcommand{\statevalfun}{v}
\newcommand{\actvalfun}{q}
\newcommand{\disc}{\gamma}
\newcommand{\advseq}{\mathbb{A}}
%
%
\newcommand{\floor}[1]{\left\lfloor #1 \right\rfloor}
\newcommand{\ceil}[1]{\left\lceil #1 \right\rceil}
%
%
$$
```