

# 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{\W}{\mathbf{W}}
\newcommand{\X}{\mathbf{X}}
\newcommand{\KL}{\mathbf{KL}}
\newcommand{\E}{\mathbb{E}}
\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}{\mathbf{l}}
\newcommand{\llp}{\mathbf{((\ll))}}
%
\newcommand{\Thetam}{\Theta_{-0}}

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

```

% 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}}
%
%

\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}}
%
%

% 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}}
%
\newcommand{\floor}[1]{\left\lfloor #1 \right\rfloor}
\newcommand{\ceil}[1]{\left\lceil #1 \right\rceil}
%
\def\loc#1{{\text{##} {#1}}}
%
$$

```

**Store cell 1 as a macro (need to change line number if above cell is not output 1)**

In [2]: `#% macro _latex_std_ 1`

In [3]: `# %store -r _latex_std_`