```
\vec{x}
N
lossy
en-
coder
C
loss-
less
code
\vec{C}
\vec{x}
\vec{x}
\vec{c}

d_{L_2} \\ d(\vec{x}, \hat{\vec{x}}) = \frac{1}{N} \sum_{i}^{N} (x_i - \hat{x}_i)^2, =^{N}.
```