# "Sequence to Sequence Learning with Neural Networks" (I. Sutskever et al., 2014)

for the seminar Deep Time-Series Learning with Finance Applications, organized by L. El Ghaoui & F. Belletti, Fall 2017, UC Berkeley

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#### Introduction

- Your introduction goes here!
- Use itemize to organize your main points.

## **Examples**

Some examples of commonly used commands and features are included, to help you get started.

## Tables and Figures

- Use tabular for basic tables see Table 1, for example.
- You can upload a figure (JPEG, PNG or PDF) using the files menu.
- ▶ To include it in your document, use the includegraphics command (see the comment below in the source code).

Item	Quantity
Widgets	42
Gadgets	13

Table 1: An example table.

## Readable Mathematics

Let  $X_1,X_2,\ldots,X_n$  be a sequence of independent and identically distributed random variables with  $\mathsf{E}[X_i]=\mu$  and  $\mathsf{Var}[X_i]=\sigma^2<\infty$ , and let

$$S_n = \frac{X_1 + X_2 + \dots + X_n}{n} = \frac{1}{n} \sum_{i=1}^{n} X_i$$

denote their mean. Then as n approaches infinity, the random variables  $\sqrt{n}(S_n - \mu)$  converge in distribution to a normal  $\mathcal{N}(0, \sigma^2)$ .

## References I

Sutskever, I., Vinyals, O., and Le, Q. V. (2014). Sequence to sequence learning with neural networks. In *Advances in neural information processing systems*, pages 3104–3112.