

CeTZuron

A Typst package for drawing neural network diagrams.

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Installation

1. Clone the repository

```
$ git clone https://github.com/rice8y/cetzuron.git
$ cd cetzuron
```

2. Install the package locally via justfile, .sh, or .bat

2-1. Using justfile

```
$ just install
```

Example on WSL2 (Ubuntu)

```
$ just install
Package cetzuron version 0.1.0 has been installed to /home/rice8/.local/share/typst/packages/
local/cetzuron/0.1.0
```

2-2. Using .sh

```
$ chmod +x install.sh
$ ./install.sh
```

Example on WSL2 (Ubuntu)

```
$ ./install.sh
Package cetzuron version 0.1.0 has been installed to /home/rice8/.local/share/typst/packages/
local/cetzuron/0.1.0
```

2-3. Using .bat

```
> install.bat
```

Example on Windows (cmd)

```
> install.bat
C:\install.sh
C:\justfile
C:\README.md
C:\typst.toml
C:\docs\ae\sample_ae.pdf
C:\docs\ae\sample_ae.png
C:\docs\ae\sample_ae.typ
C:\docs\fcnn\sample_fcnn.pdf
C:\docs\fcnn\sample_fcnn.png
C:\docs\fcnn\sample_fcnn.typ
C:\docs\lstm\sample_lstm.pdf
C:\docs\lstm\sample_lstm.png
C:\docs\lstm\sample_lstm.typ
C:\docs\rnn\sample_rnn.pdf
C:\docs\rnn\sample_rnn.png
C:\docs\rnn\sample_rnn.typ
C:\src\ae.typ
```

```
C:src\fcnn.typ
C:src\lib.typ
C:src\lstm.typ
C:src\requirements.typ
C:src\rnn.typ
23 File(s) copied
Package cetzuron version 0.1.0 has been installed to C:
\Users\yoneyama\AppData\Roaming\typst\packages\local\cetzuron\0.1.0
```

Usage

Import the package using `#import`.

```
#import "@local/cetzuron:0.1.0"
```

Fully Connected Neural Network #fcnn

Parameters

```
fcnn(
  inputNodes: int,
  middleNodes: int,
  outputNodes: int,
  middleLayers: int,
  label: bool,
) -> content
```

inputNodes: Number of nodes in the input layer **middleNodes:** Number of nodes in hidden layers **outputNodes:** Number of nodes in the output layer **middleLayers:** Number of hidden layers (default: 3) **label:** Whether to show labels (default: true)

Example usage of #fcnn

```
#import "@local/cetzuron:0.1.0": *
#set page(width: auto, height: auto)
#set text(lang: "ja", font: "TeX Gyre Termes", size: 10pt)
#show regex("[\\p{scx:Han}\\p{scx:Hira}\\p{scx:Kana}]"): set text(lang: "ja", font: "Harano Aji Mincho", size: 10pt)

#figure(
  fcnn(3, 4, 3),
  caption: [With Labels]
)
#figure(
  fcnn(5, 4, 3, middleLayers: 1, label: false),
  caption: [Without Labels]
)
```

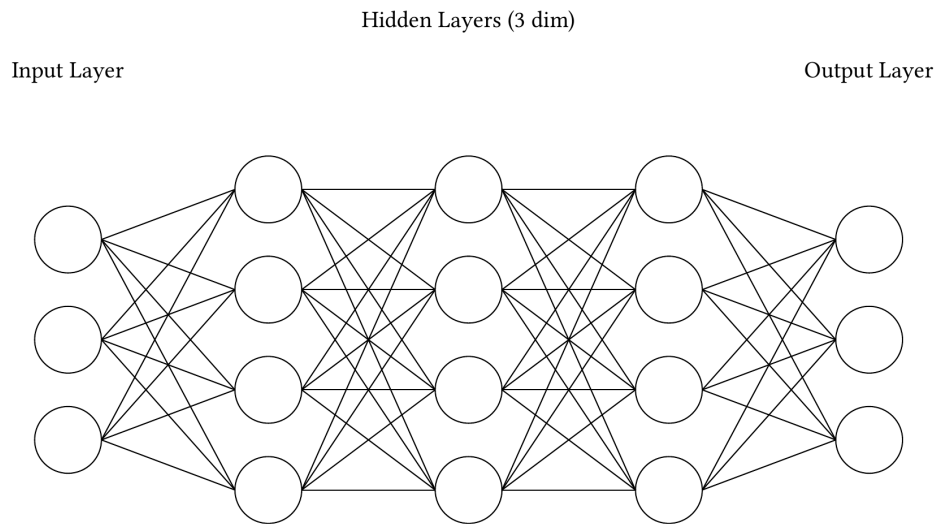


Figure 1: With Labels

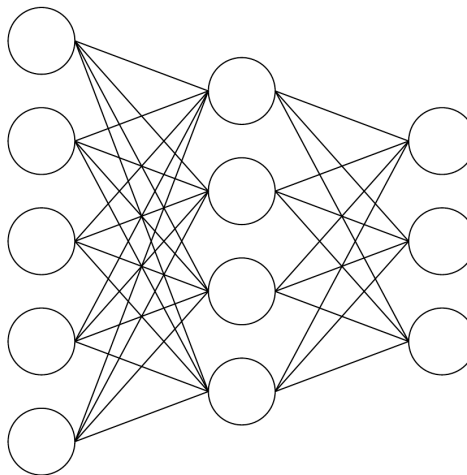


Figure 2: Without Labels

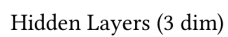
Recurrent Neural Network #rnn

Parameters

```
rnn(
  inputNodes: int,
  middleNodes: int,
  outputNodes: int,
  middleLayers: int,
  label: bool,
) -> content
```

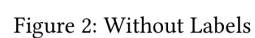
inputNodes: Number of nodes in the input layer **middleNodes:** Number of nodes in hidden layers **outputNodes:** Number of nodes in the output layer **middleLayers:** Number of hidden layers (default: 3) **label:** Whether to show labels (default: true)

```
#import "@local/cetzuron:0.1.0": *
#set page(width: auto, height: auto)
#set text(lang: "ja", font: "TeX Gyre Termes", size: 10pt)
#show regex("[\\p{scx:Han}\\p{scx:Hira}\\p{scx:Kana}"]): set text(lang: "ja", font: "Harano Aji Mincho", size: 10pt)
```



Input Layer

Output Layer



Long Short-Term Memory #lstm

Parameters

```
lstm(  
    inputNodes: int,  
    middleNodes: int,  
    outputNodes: int,  
    middleLayers: int,  
    label: bool,  
) -> content
```

inputNodes: Number of nodes in the input layer **middleNodes:** Number of nodes in hidden layers **outputNodes:** Number of nodes in the output layer **middleLayers:** Number of hidden layers (default: 3) **label:** Whether to show labels (default: true)

Example usage of #lstm

```
#import "@local/cetzuron:0.1.0": *  
#set page(width: auto, height: auto)  
#set text(lang: "ja", font: "TeX Gyre Termes", size: 10pt)  
#show regex("[\p{scx:Han}\p{scx:Hira}\p{scx:Kana}"): set text(lang: "ja", font: "Harano Aji  
Mincho", size: 10pt)  
  
#figure(  
    lstm(3, 4, 3),  
    caption: [With Labels]  
)  
#figure(  
    lstm(5, 4, 3, middleLayers: 1, label: false),  
    caption: [Without Labels]  
)
```

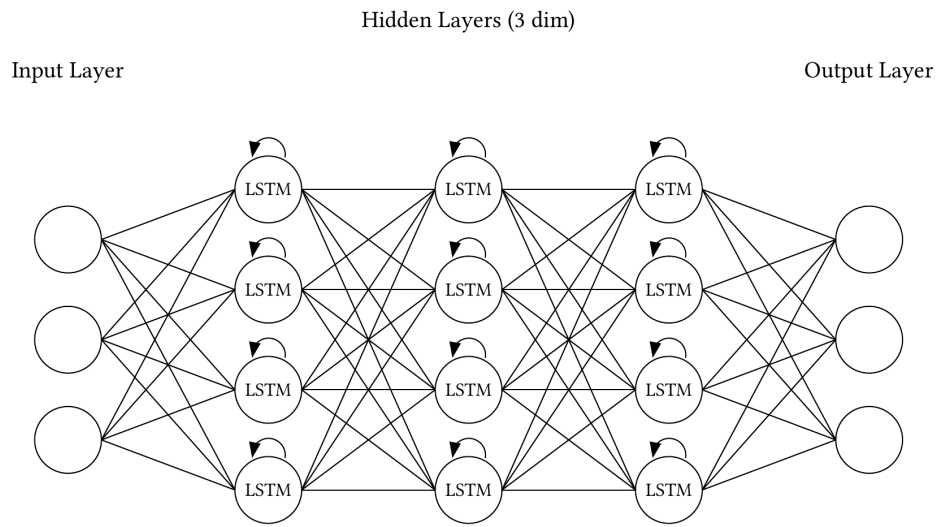


Figure 1: With Labels

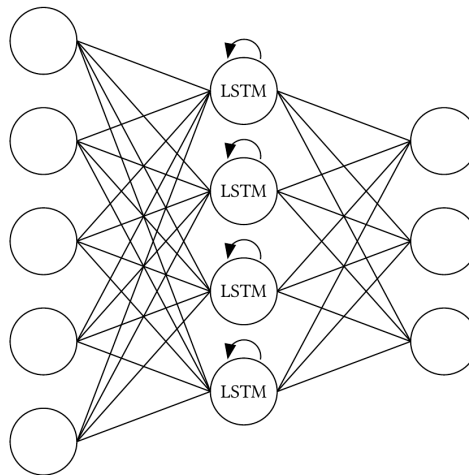


Figure 2: Without Labels

Autoencoder #ae

Parameters

```
ae(
  inputNodes: int,
  middleNodes: int,
  style: string,
  label: bool,
) -> content
```

inputNodes: Number of nodes in input/output layers **middleNodes:** Number of nodes in hidden layer **style:** Shape of hidden layer [“short”, “full”] (default: “short”) **label:** Whether to show labels (default: true)

Example usage of #ae

```
#import "@local/cetzuron:0.1.0": *
#set page(width: auto, height: auto)
#set text(lang: "ja", font: "TeX Gyre Termes", size: 10pt)
#show regex("[\p{scx:Han}\p{scx:Hira}\p{scx:Kana}]"): set text(lang: "ja", font: "Harano Aji
Mincho", size: 10pt)

#figure(
  ae(5, 3),
  caption: [With Labels (short)]
)
#figure(
  ae(5, 3, style: "full"),
  caption: [With Labels (full)]
)
#figure(
  ae(4, 2, style: "full", label: false),
  caption: [Without Labels (full)]
)
```

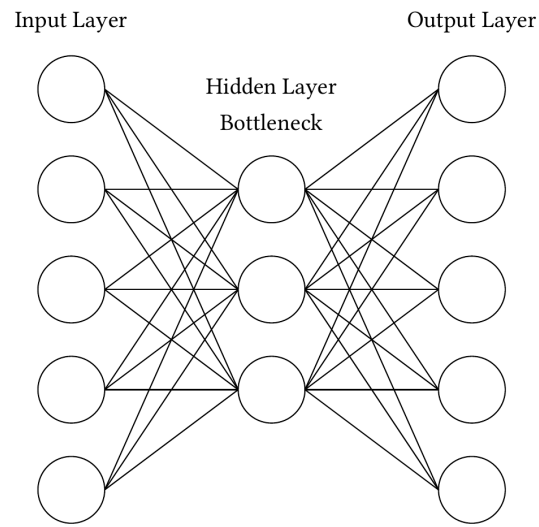


Figure 1: With Labels (short)

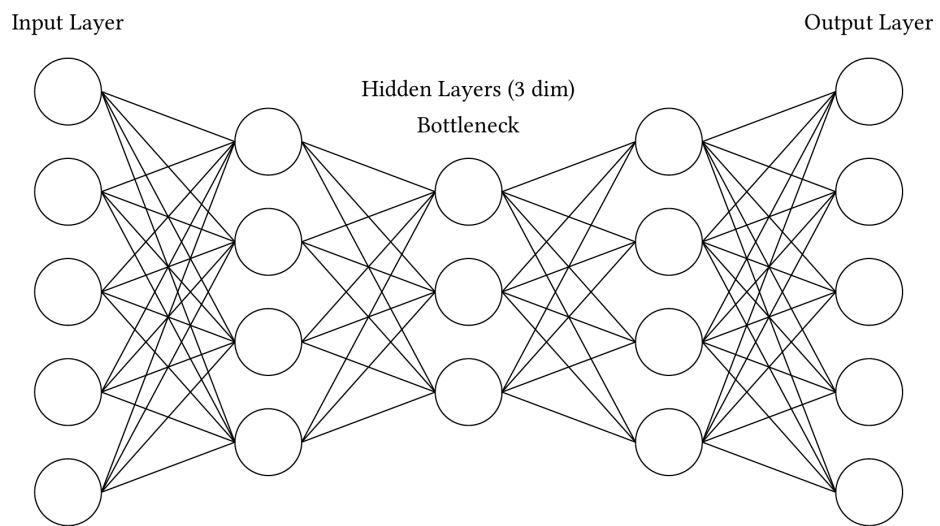


Figure 2: With Labels (full)

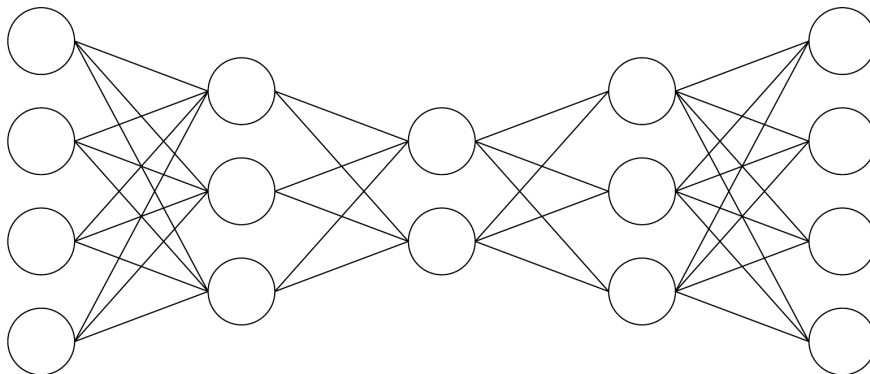


Figure 3: Without Labels (full)