



3rd Vienna Deep Learning Meetup

June 6, 2016 @ sektor5, Vienna

Hosts:



Thomas Lidy



Jan Schlüter



3rd Vienna Deep Learning Meetup

Today's Agenda:

- **Introduction**
- **“Latest News in Deep Learning”** (Tom Lidy)
- **Open-source Deep Learning with Theano and Lasagne**
(Jan Schlüter)
- **Discussion: Theano/Lasagne/Other Frameworks**



Deep Learning

Next Meetup?



What do you prefer?

- July
- August
- September

Want to hold a talk or have interesting “trending topics”?

Also make use of the Discussion Board:

<http://www.meetup.com/Vienna-Deep-Learning-Meetup/messages/boards/>



Deep Learning

“Latest News”

a 5-10 min block at every meetup
to very briefly present “trending topics”

Send us contributions (tom.lidy@gmail.com)

Or come with slides to do a 5-10 min block yourself!

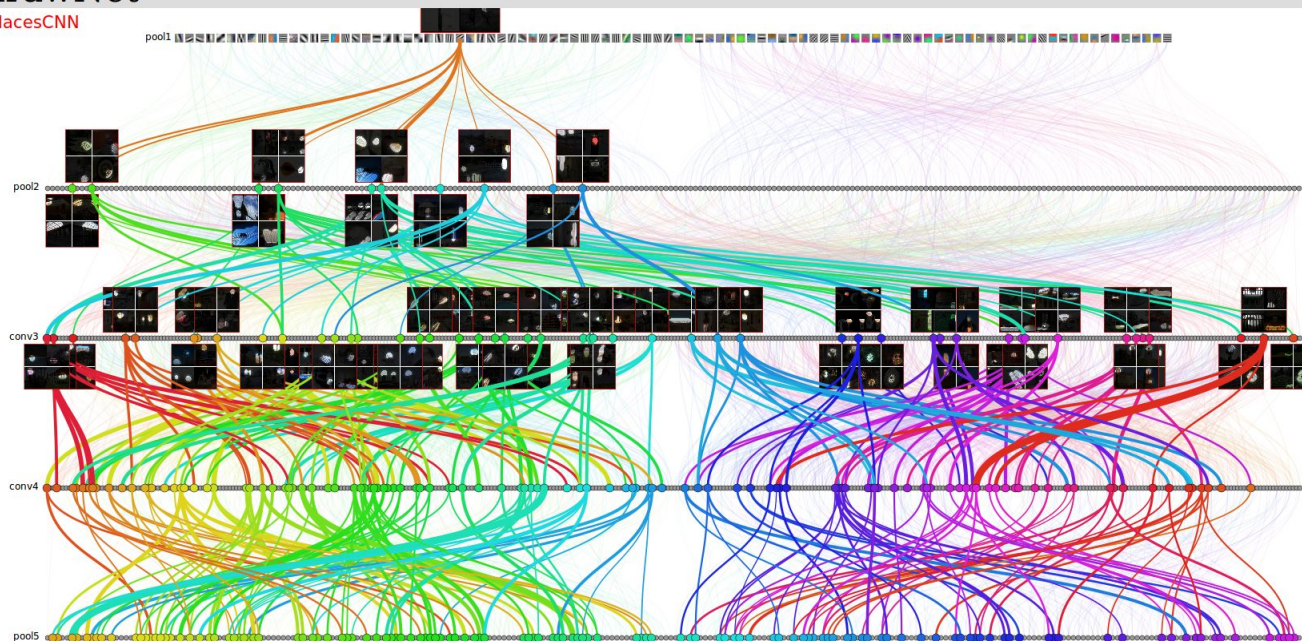


Deep Learning

“drawNet”

drawNet

placesCNN



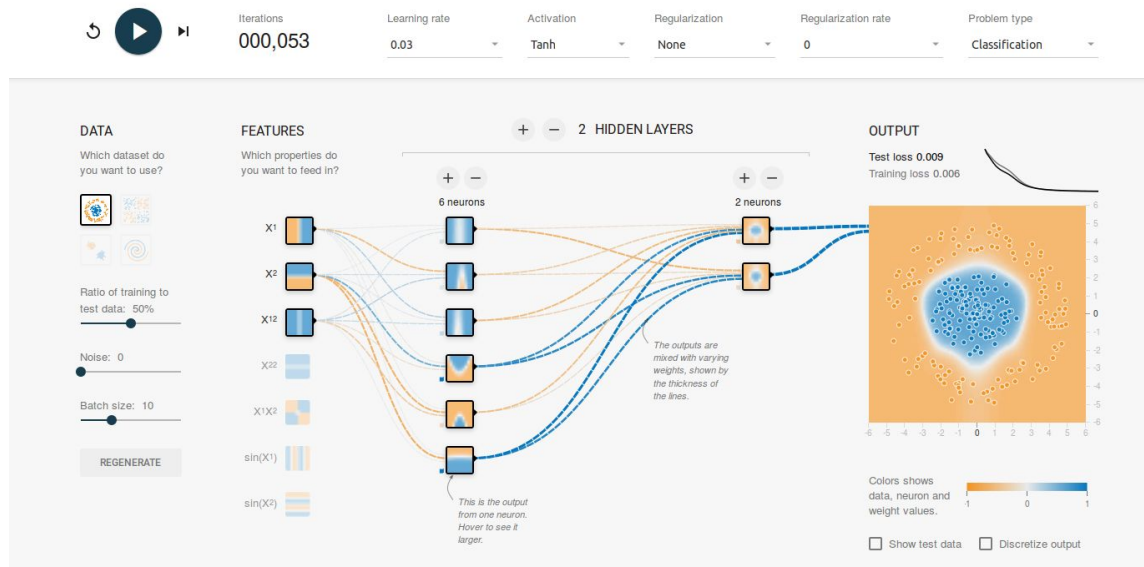
CNN vis: a click unit to show the strongest connections going in and out + the images that most strongly activate each unit

<http://people.csail.mit.edu/torralba/research/drawCNN/drawNet.html>



Tensorflow Playground

Tinker With a **Neural Network** Right Here in Your Browser.
Don't Worry, You Can't Break It. We Promise.



Design & adapt a NN in browser and see how it learns:

<http://playground.tensorflow.org/>



Google Patent on CNN+RNN

Google filed a Patent on "Convolutional, Long Short-Term Memory, Fully Connected Deep Neural Networks" ("for identifying the language of a spoken utterance")

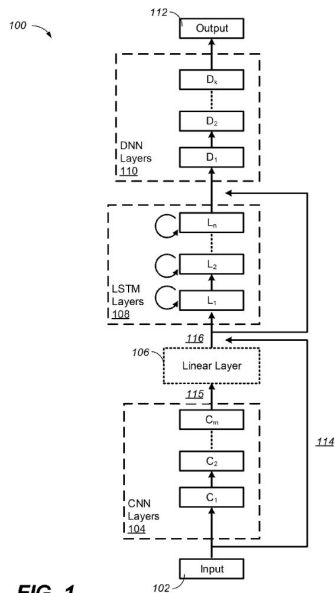


FIG. 1

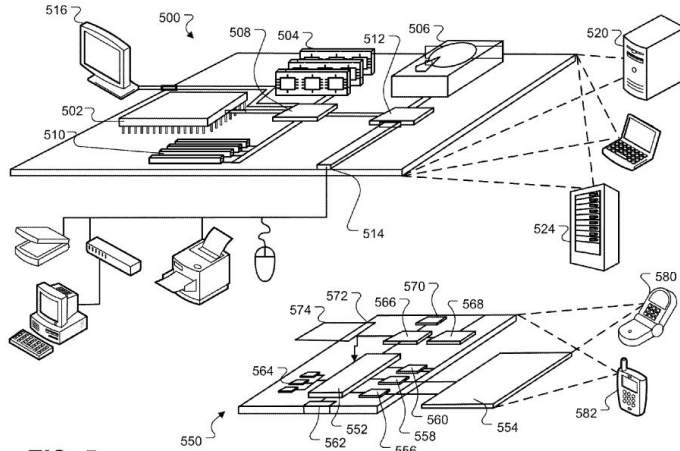
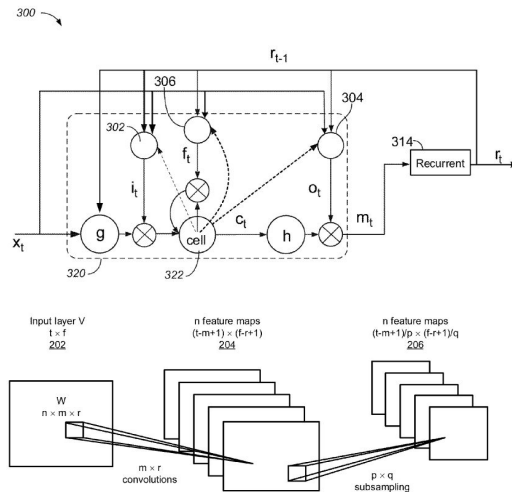


FIG. 5



<http://www.freepatentsonline.com/y2016/0099010.html>




Deep Learning

Open AI Gym

OpenAI Gym BETA

A toolkit for developing and comparing reinforcement learning algorithms. It supports teaching agents everything from walking to playing games like Pong or Go.

[Read the launch blog post >](#)
[View documentation >](#)
[View on GitHub >](#)

 Open source interface to reinforcement learning tasks.
The [gym](#) open-source project provides a simple interface to a growing collection of reinforcement learning tasks. You can use it

Toolkit for developing and comparing reinforcement learning algorithms. It supports teaching agents everything from walking to playing games like Pong or Go.

<https://gym.openai.com>



Deep Learning

Visual Doom AI Competition



Can AI effectively play Doom using only raw visual input?

Challenge: real-time access to the screen buffer as the only information the agent can base its decision on.

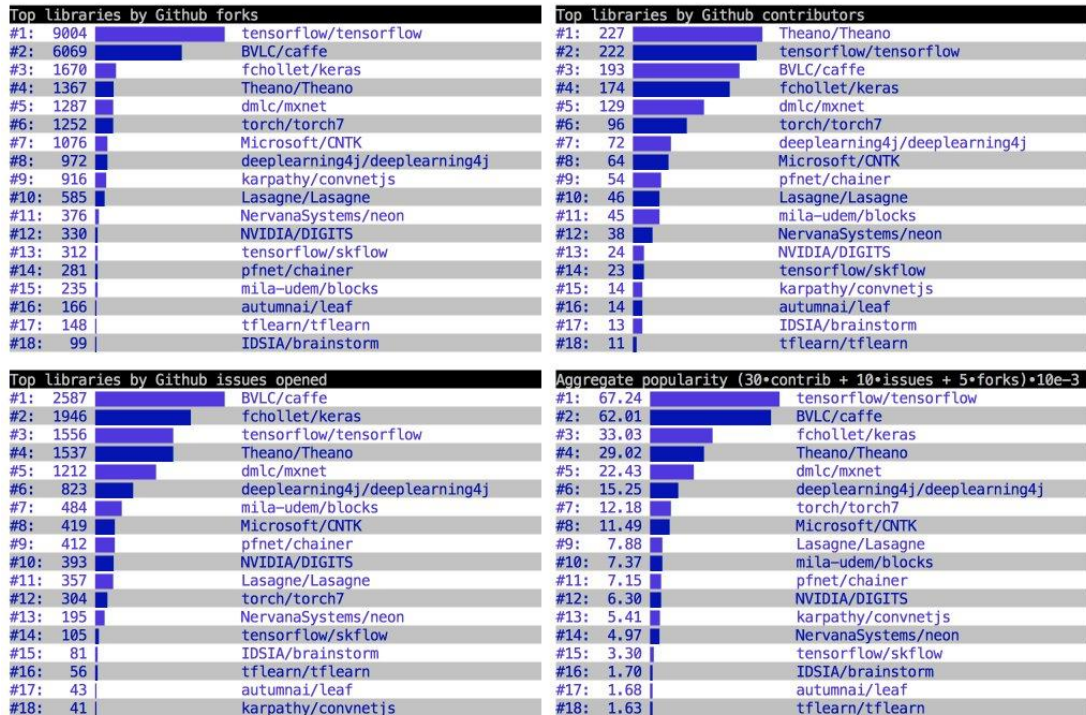
<http://vizdoom.cs.put.edu.pl/competition-cig-2016>



Deep Learning

Deep Learning Frameworks Landscape

May 2016



<https://twitter.com/fchollet/status/732225628628385794/photo/1>



Deep Learning

Keras 1.0 released

- Based on Theano or Tensorflow.
- Functional **API: a simpler and more powerful** way to define complex deep learning models.
- Better performance. **Compilation times are lower**. RNNs now come in 2 different implementations to choose from, allowing to get maximum performance across different tasks. Theano **RNNs** can now be unrolled, yielding up to a **25% speed-up**.
- Modular metrics. You can monitor arbitrary lists of metrics on arbitrary endpoints
- Better **user experience**. Code has been rewritten from scratch with the end user in mind

<http://blog.keras.io/introducing-keras-10.html> - <http://keras.io/#getting-started-30-seconds-to-keras>



Deep Learning

**Thanks a lot to Sektor5
for hosting us!**

