



COMP30170 Final Year Project

ConvNets for iOS Gesture Recognition Applications

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1 Update

- App nearly ready to role out. Few things to clear up in meeting but nothing major left.
- Waiting to hear back about recording permission. Should hear back this week.
- Did some research into sequence to sequence RNN's. Will implement as soon as app is finished.

2 Items for discussion

- Can skip a scene passing data through a segue?
background color to separate from keyboard
bigger buttons on detailsentry
background of age field is age
two pictures for male/female
remove nationality and gender text
buttons on numberEntry page
dismiss keyboard when other button clicked
flexmonkey spline interpolation cubic smoother curves hermites
- Fire segue from scene A to B when clicking button in segue C?
Not possible - move scene by scene
- Best way to initiate variable that doesn't get a value until segue happens?
put all data in object... pass object along It's fine to initialise as I am...
- which finger?
- How to improve smoothness of number tracing? - may answer next 2 questions also
- Best way to draw two strokes? Two arrays? Will user use 3 strokes ever? assume 2 max?
options: resample points so that always same size into NN, or use bitmap, or variable length?
Tangents?
Best: Multistage algorithm that completes as soon as it is done... half way through etc. State machine? Different models trained?
Force may not be an awful lot of info... Correlation between that and the speed etc.
do both index and thumb
ask if left handed or right handed at the end
could do time from the start and indefinitely extract
protobuffers - google
create 28x28 bit images and use as test set on trained MNIST
also other way? - convert MNIST to strokes...
arc length and first derivative...

- How to time strokes? start at beginning of first stroke and end at end of second?
item lack of force??

3 Plan for Next Week

In order of priority from top to bottom

- Further permission to record data
- Get data stored in a reliable way
- Make a timetable for the year, more detailed one until christmas?
- Start into further deep learning resources e.g. [2–4]. Tensorflow also.
- Investigate paramaterisation of bitmaps.

4 Meeting Notes

References

- [1] P. Hegarty. (2016) Developing ios 8 apps with swift. [Online]. Available: <https://itunes.apple.com/en/course/developing-ios-8-apps-swift/id961180099>
- [2] Ng. (2016) Stanford course on machine learning. [Online]. Available: <https://www.coursera.org/learn/machine-learning>
- [3] V. Vanhoucke. (2016) Udacity course on machine learning. [Online]. Available: <https://www.udacity.com/course/deep-learning--ud730>
- [4] NVIDIA. (2016) Course on deep learning. [Online]. Available: <https://developer.nvidia.com/deep-learning-courses>