

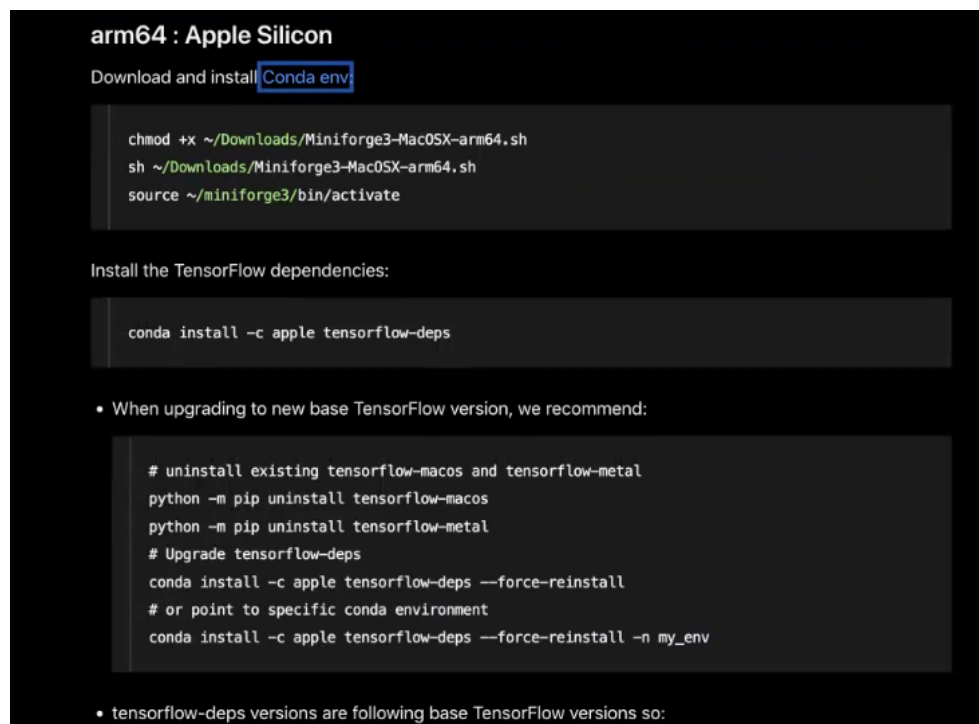
## THINK-ALOUD SESSION 1 - XIAOCHEN HOU - TENSORFLOW

**00:04** Hum..First thing I'm gonna do is opening a new tab and I'm gonna search **tensorflow**. Hum... I'm looking for a mac version and I want to have a gpu acceleration for it, so I know Apple is developing a specific version of tensorflow *that is supposed and one shed* for gpu acceleration, so I'm gonna search for "mac gpu tensorflow". I'm clicking on the apple developer page...

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**L: Are you familiar with this tool?**

//I've done some research before, but I haven't done an installation.

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**01:00** So I'm using arm64, so is Apple Silicon, so I'm just following the instructions given by Apple. So first thing is to install Conda, I'm gonna open the terminal and just copy and paste the command



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arm64 : Apple Silicon
Download and install Conda env

chmod +x ~/Downloads/Miniforge3-MacOSX-arm64.sh
sh ~/Downloads/Miniforge3-MacOSX-arm64.sh
source ~/miniforge3/bin/activate

Install the TensorFlow dependencies:

conda install -c apple tensorflow-deps

• When upgrading to new base TensorFlow version, we recommend:

# uninstall existing tensorflow-macos and tensorflow-metal
python -m pip uninstall tensorflow-macos
python -m pip uninstall tensorflow-metal
# Upgrade tensorflow-deps
conda install -c apple tensorflow-deps --force-reinstall
# or point to specific conda environment
conda install -c apple tensorflow-deps --force-reinstall -n my_env

• tensorflow-deps versions are following base TensorFlow versions so:
```

**01:44** opens the terminal and copy and paste the first command the second one is going to be the shell **runs the second command** **02:07 02:18** A lot of text to read and...**02:25** "Do you accept the license terms?" Yes. **Reading instructions...** **02:50** Successfully installed.**03:09** So... nothing happened, so I'm gonna assume that's correct. So now I'm gonna install the Tensorflow dependencies, just copy and paste... it's

downloading I think... done. "When upgrading to new base Tensorflow version, we recommend:"

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**L: So you installed another version instead of the latest one?**

No, I think I'm gonna install the new version

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04:33 So... that's the instruction to upgrade to the new version, right? *Scrolling the page*  
So, step two is to install base Tensorflow (*copy and paste the command and wait until its completed*). Hum...(reading) okay, so we can keep going, I'm installing the metal plugin, sucessfully installed. (*opening anaconda navigator*)

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**L: Now I'm gonna ask you a few questions.**

**Did you have any challenges during the installation process?**

Hum... Yes, I think the first challenge is that I have a little bit confusion when i face a bunch of information on the terminal, I dont know if i should press enter or... so... it could be more clear to show what to do next. Yeah, there's just no like "please, press enter to continue" I think it should have had that.

**Were the instructions clear to you?**

Pretty much clear

**Did you do something to overcome this challenge? Like, did you read...?**

Yes, skimmed through the words to see what was going on and i just think that looking at a bunch of the information on the prompt, that's not the information for me, so just keep reading and keep going.

**What support/information could have made the installation process easier?**

Yeah, I think probably the Apple developer page like this, as you can see on my screen, they put three of these lines together, so in my mind 11:38 i can read commands in a row without any stop or pause, but during the second line of command (**step two**) they just throw me a bunch of words, so it's kind of distractive.

