

Supplemental Instructions for AG2PI Workshop by Dr. Joshua Peschel

“Developing Mobile Computer Vision Applications for Improved Recognition of Livestock”
August 19, 2021, 3pm-5pm

The first part of the workshop will cover iOS development. To participate directly in this part users must have a Mac computer with an Apple ID and XCode installed. A paid Apple Developer account is not required to test your code on a local device but is required to test through TestFlight and distribute through the App Store. If you are already developing on Mac, you probably have this set up already; if not, below are some publicly available videos for how to set this up*:

- 1) How to Make an App – XCode Tutorial (SwiftUI): <https://youtu.be/tPWUsSELJyY>
- 2) Creating Your Apple Developer Account: <https://youtu.be/ZKmwUip8iew>

All XCode project code will be created live and made available for download after the workshop.

The second part of the workshop will cover multi-platform development (either iOS or Android) and will rely upon Unity3D and Visual Studio. Deployment will be demonstrated through both XCode (iOS) and Android Studio (Android).

Some publicly available instructions for how to install Unity3D and Visual Studio*:

- 1) How to Install the Unity Game Engine <https://youtu.be/Y7zjEQRJVzY>

When you install Unity3D, you will want to make sure to also install Visual Studio and Android Studio as described in the video during the installation process; this would be for Windows only. For Mac, you can additionally install the files option for iOS. The installation is very large and might take a good while (hours), depending on the speed of your machine. Windows and Mac follow a similar procedure, but the installation screens might vary a small bit in their appearances.

We will use an OpenCV asset for Unity3D which can be found with instructions here:
<https://assetstore.unity.com/packages/tools/integration/opencv-plus-unity-85928>

You will also see there is a paid asset version; I am using the paid version because it has some additional functionality, but the free version should work fine for what we are doing. Once Unity3D is installed, please do not change any of the default settings of this software as it could lead to unanticipated errors with the files we will set up during the workshop.

All Unity3D project code will be created live and made available for download after the workshop.

Disclaimer: Questions during the workshop are very much encouraged; however, the workshop coding will be presented in real-time and due to time constraints Dr. Peschel will be unable to troubleshoot technical problems that might arise on individual personal computers involving software package installation and programming errors. Please also be respectful of the chat and do not broadly seek out other participants to solve personal technical issues. A forum will be made available after the workshop as part of the archival process where these issues can be discussed.

* These are public video links that can be useful. There might be other different videos you might like better. These links are provided only as one example and the content and/or creators of these videos are not being endorsed or recommended in any way.