Workshop Housekeeping

Python Fundamentals for Engineers and Manufacturers

Hosted By

Workshop repo
http://bit.ly/2opFlZ6

SME Chapter 112 Chicagoland

SME Chapter 430 Greater Charleston

Where is all the info for this workshop?

http://bit.ly/2opFlZ6

Workshops are just the beginning.

Workshop repo
http://bit.ly/2opFlZ6

- Open-source projects on GitHub.
- Targeted webinars on YouTube.
- Real-world, industry use-cases on YouTube. Check out http://bit.ly/2FlcOxG.
- Industrial hardware/software hackathons.
- Virtual assistance with SME student chapter projects.
- Live stream coding sessions on YouTube.

We ❤ feedback and suggestions!

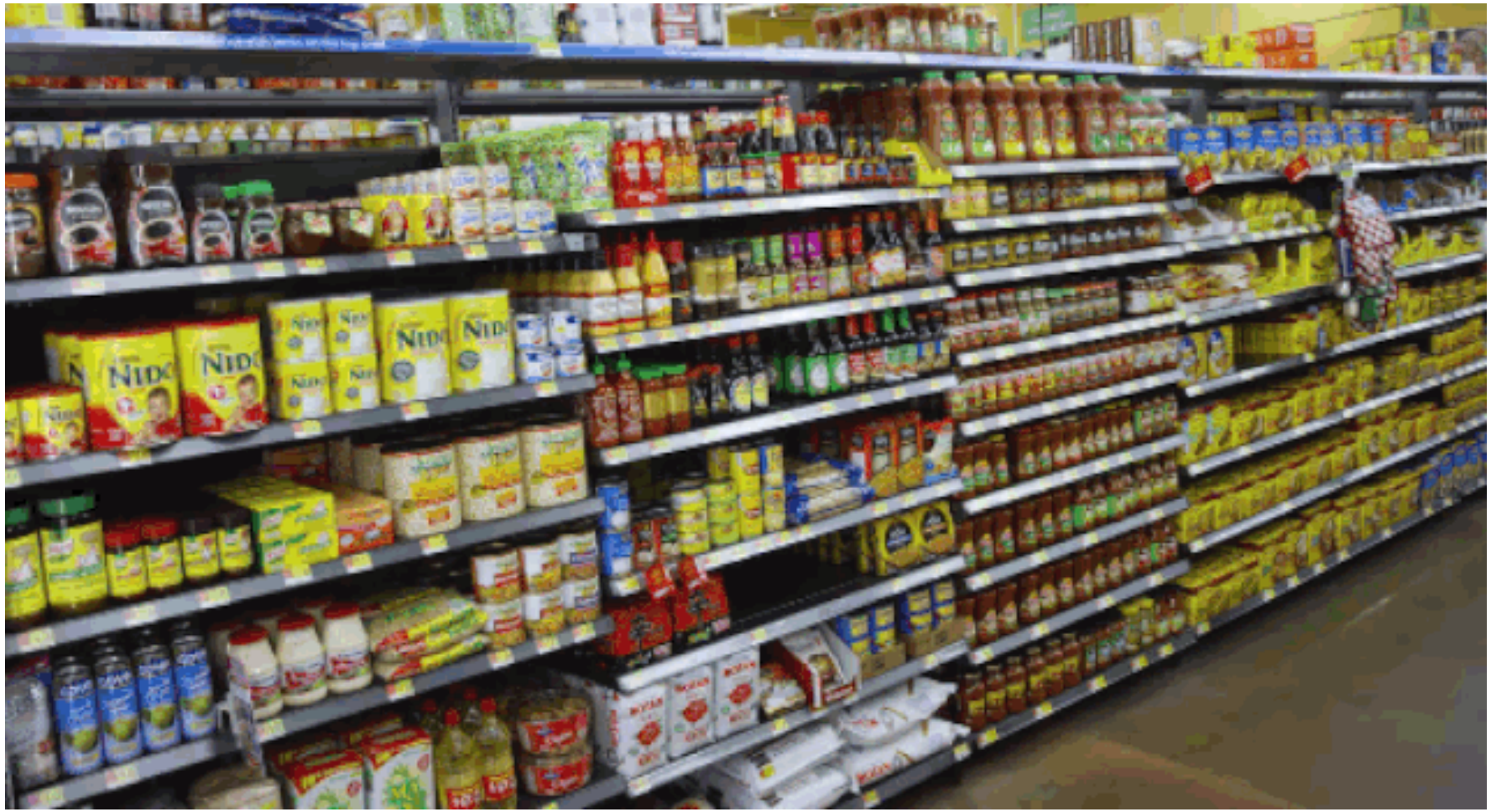
http://bit.ly/2G42GXy

Robot Operating System
http://www.ros.org/

OpenCV
https://opencv.org/

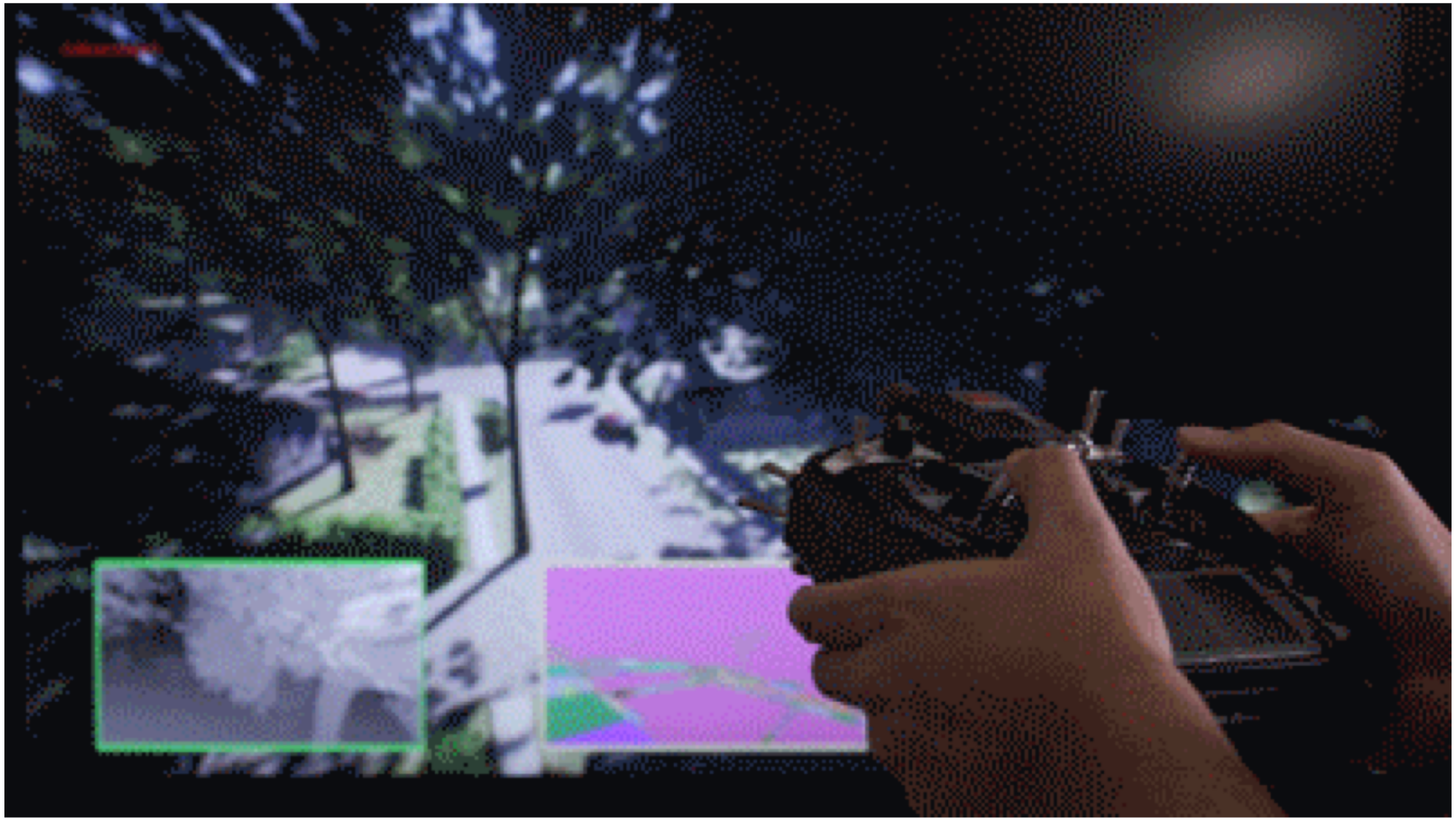
CUDA
http://bit.ly/2F9tpkH

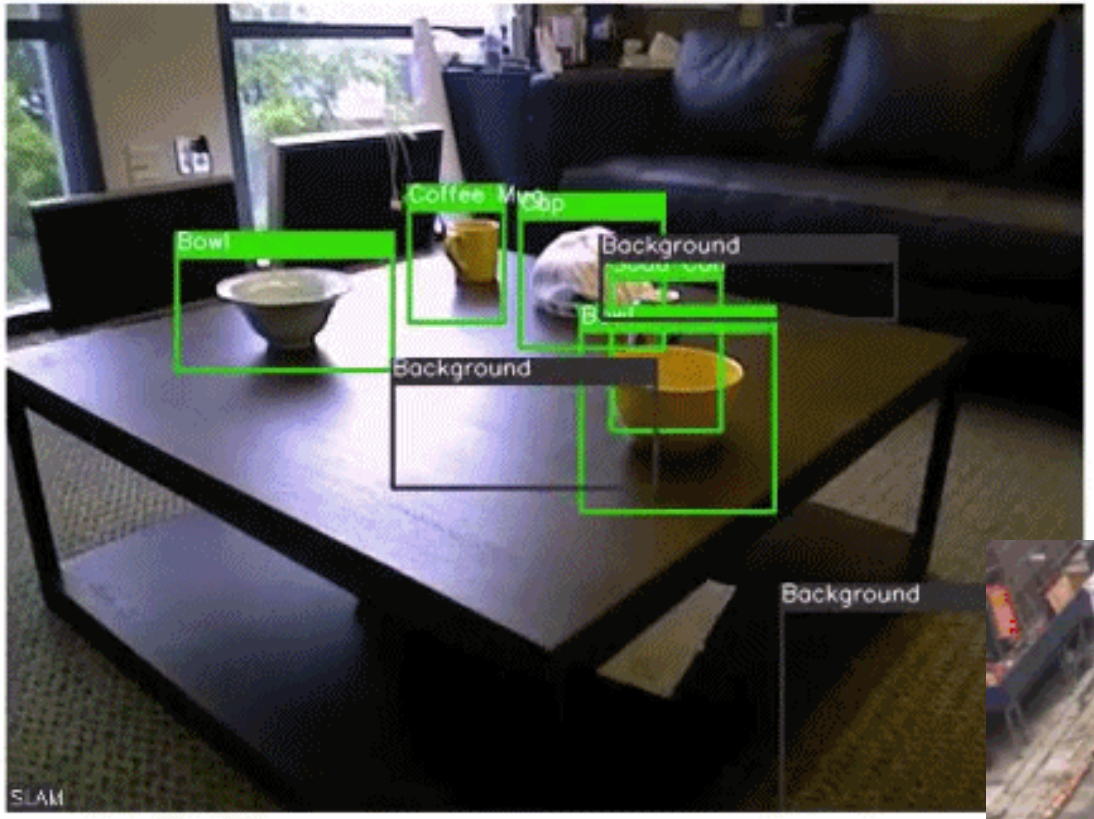
NVIDIA Jetson Boards
http://bit.ly/2FOnx1f



PX4 – Flight Stack and Autonomous Middleware

http://px4.io/





OpenCV
https://opencv.org/

NVIDIA Jetson Boards
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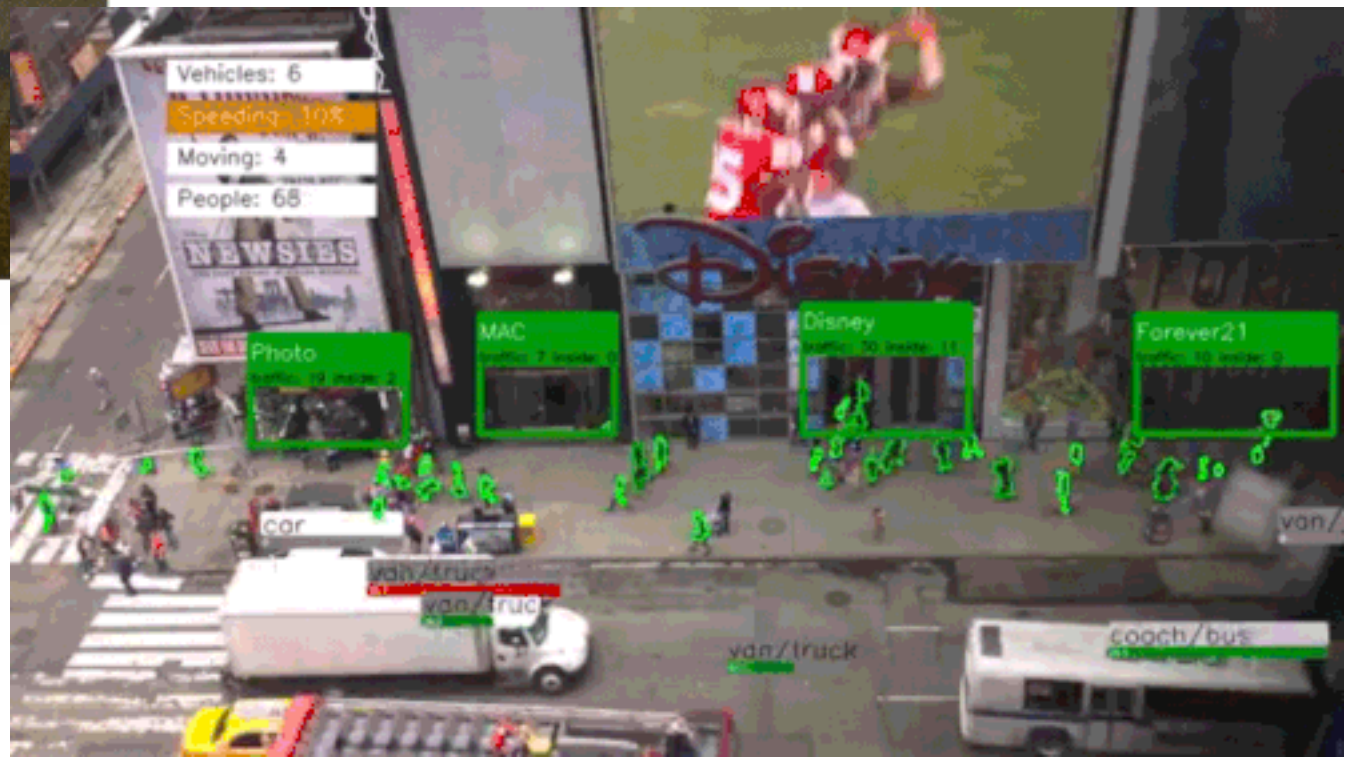
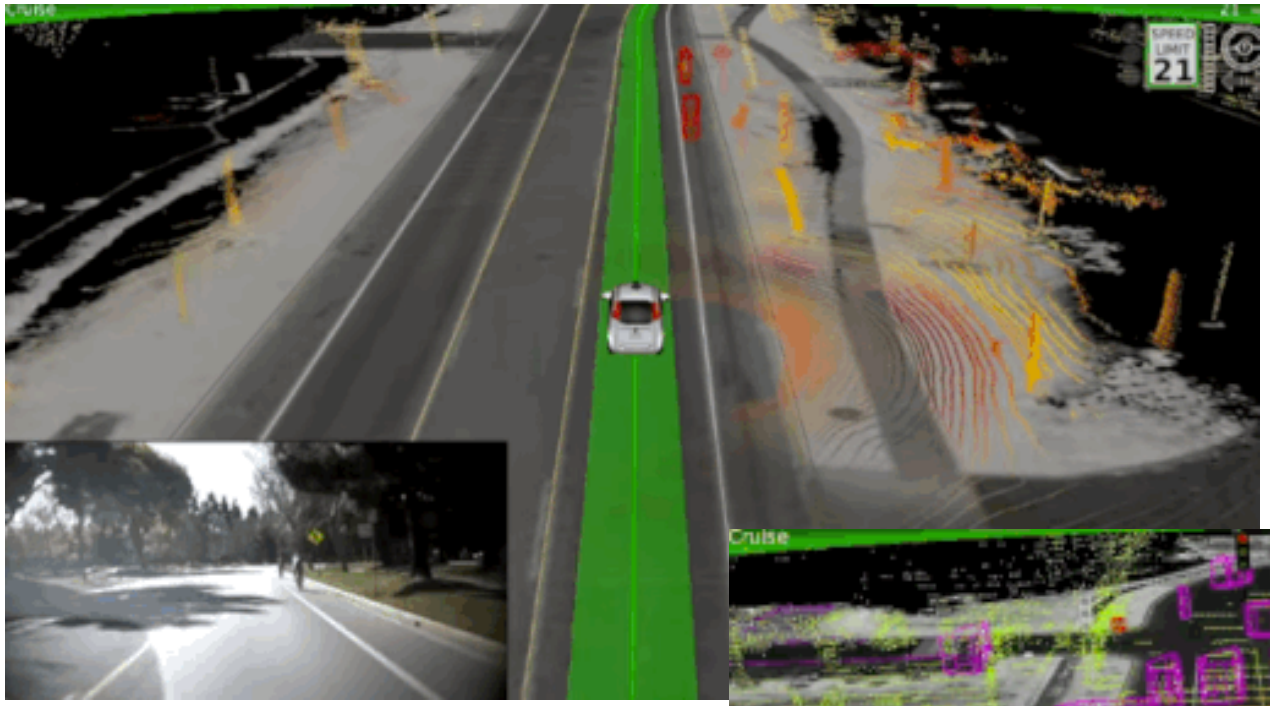
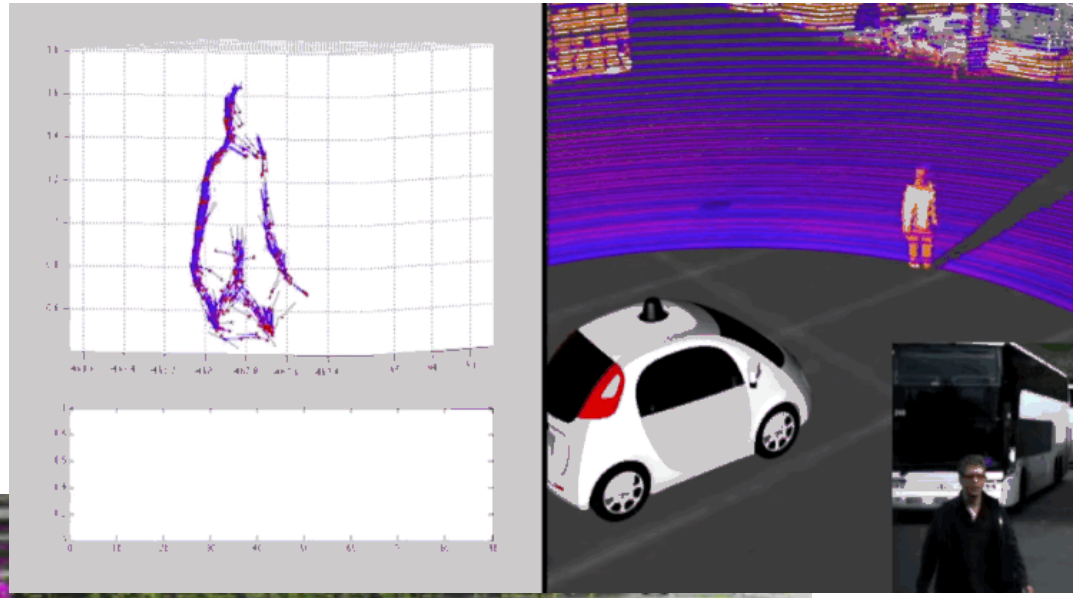
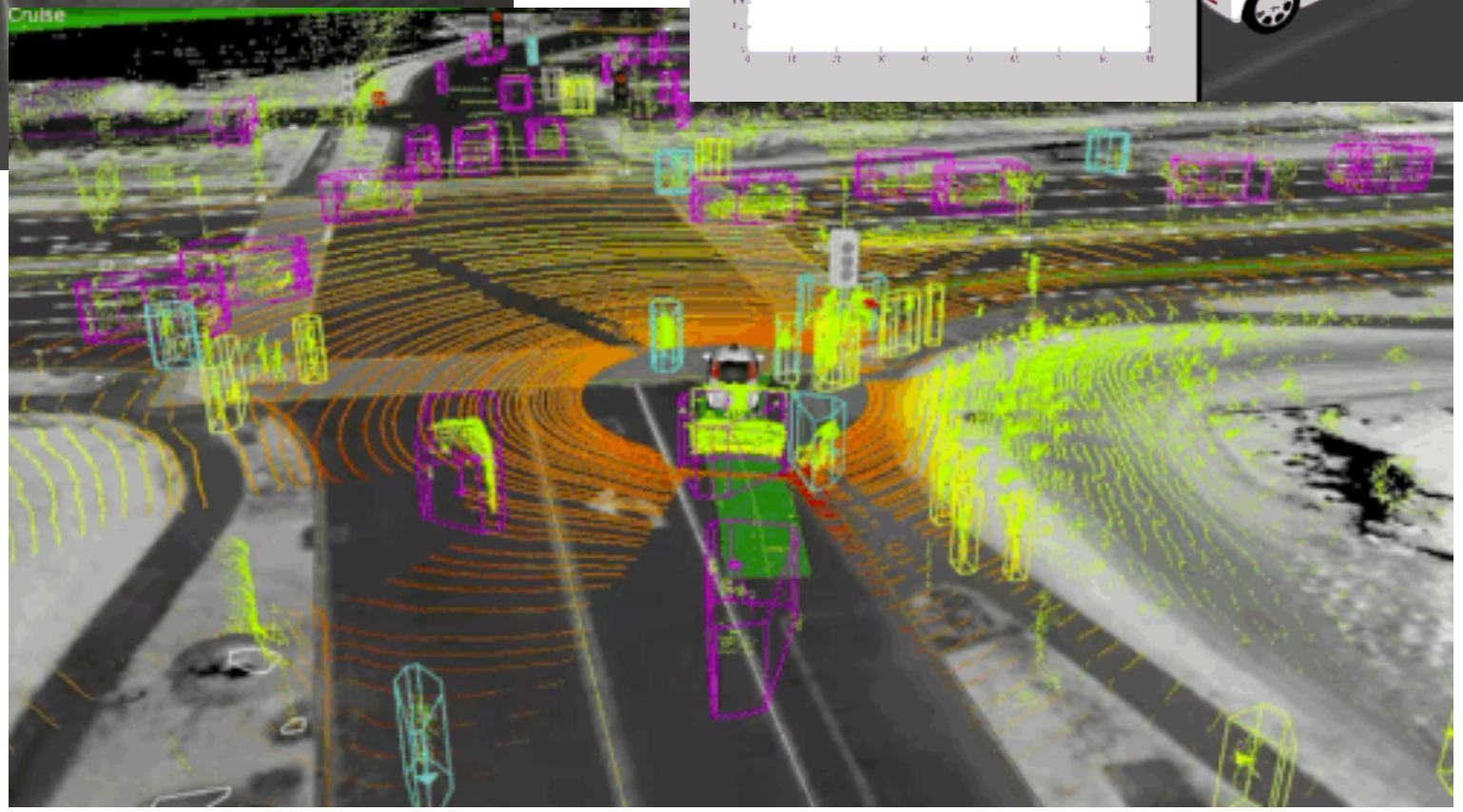








CARLA
http://www.carla.org/

Udacity Self-Driving Simulator
http://bit.ly/2oKNKFY

Unity
https://unity3d.com/

Python Topics - Fundamentals

Workshop repo
http://bit.ly/2opFlZ6

- Introduction to Git. Check out https://bit.ly/2teAz5x.
- Introduction to Anaconda, the Python interpreter and the pip ecosystem.
- Introduction to Jupyter Notebooks and Visual Studio Code.
- Data types and objects.
- Reading and writing data.
- Control flow.
- Loops and iterables.
- Functions.
- Classes.
- Packages.

Workshop repo
http://bit.ly/2opFlZ6

- Documentation.
- Testing.
- Debugging.
- Profiling.
- Network communication.
- Data exploration and visualization (with NumPy and Pandas).

Workshop Outline – Advanced

Workshop repo
http://bit.ly/2opFlZ6

- Concurrency and parallelism.
- Hardware description and verification (HDL).
- Computational geometry (pretty good video here).
- Image manipulation and machine vision.
- Neural networks (CNN or ConvNet).

Check out the TensorFlow Playground.

All SME Virtual Network projects will support  labels on issues.

You can “claim” an issue by adding a comment to the issue which contains the word **claim**.

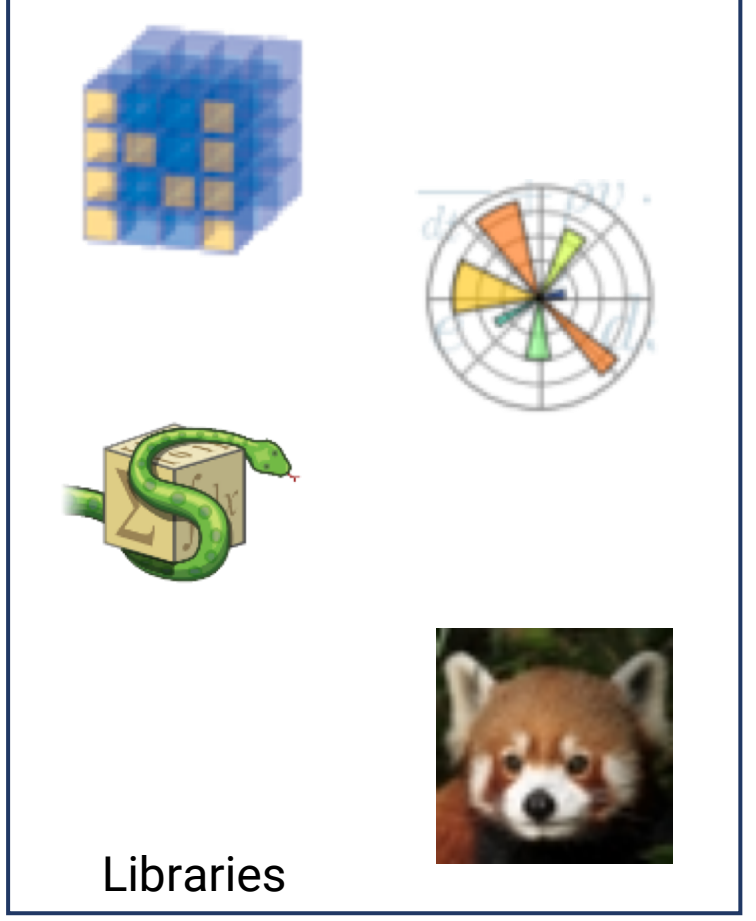
Want a list of other “beginner-friendly” Python open-source projects?
http://bit.ly/2Fb2KUM

Anaconda Ecosystem

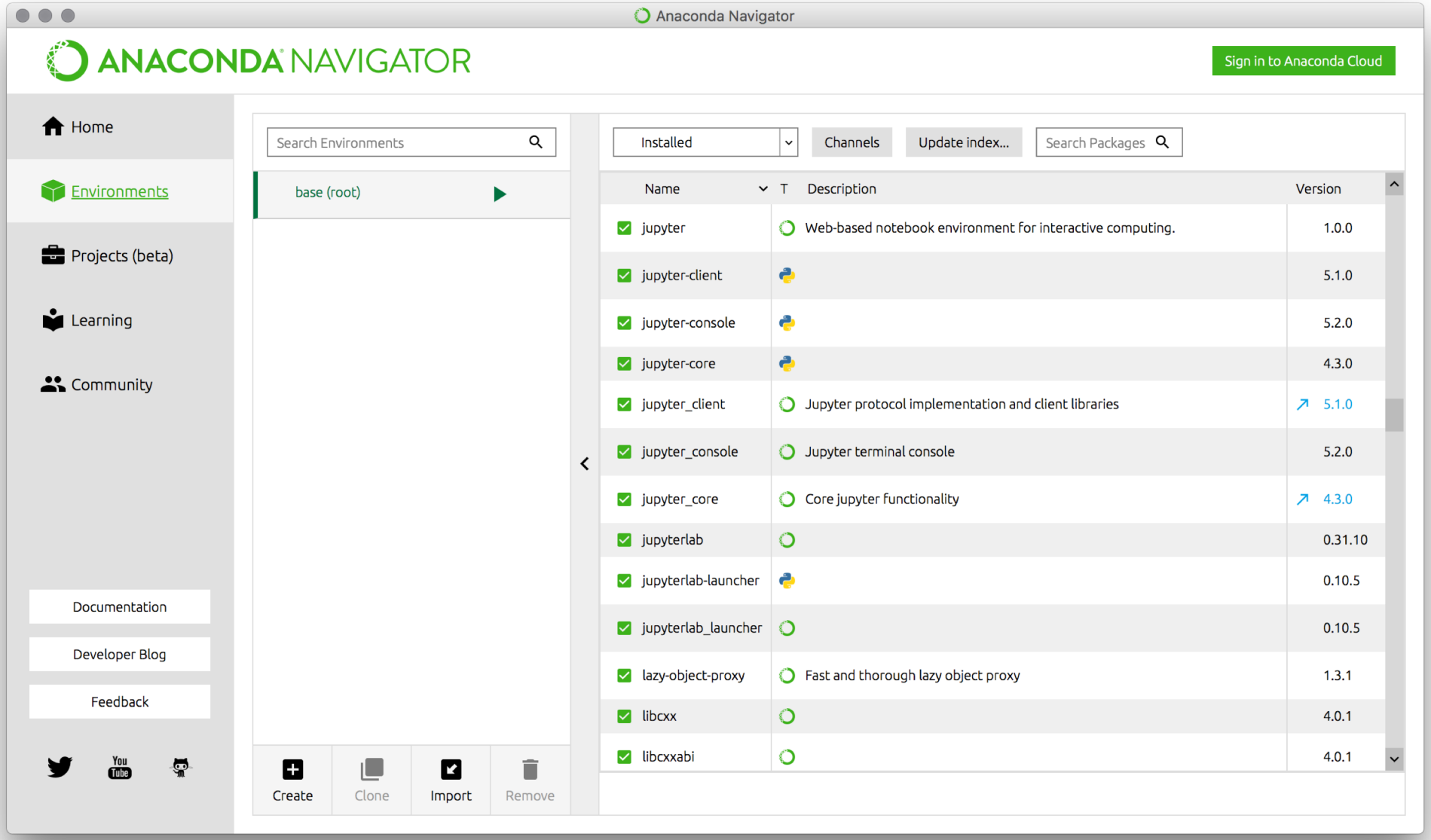
Anaconda Cloud

```
conda install -c <channel> <package name>
```

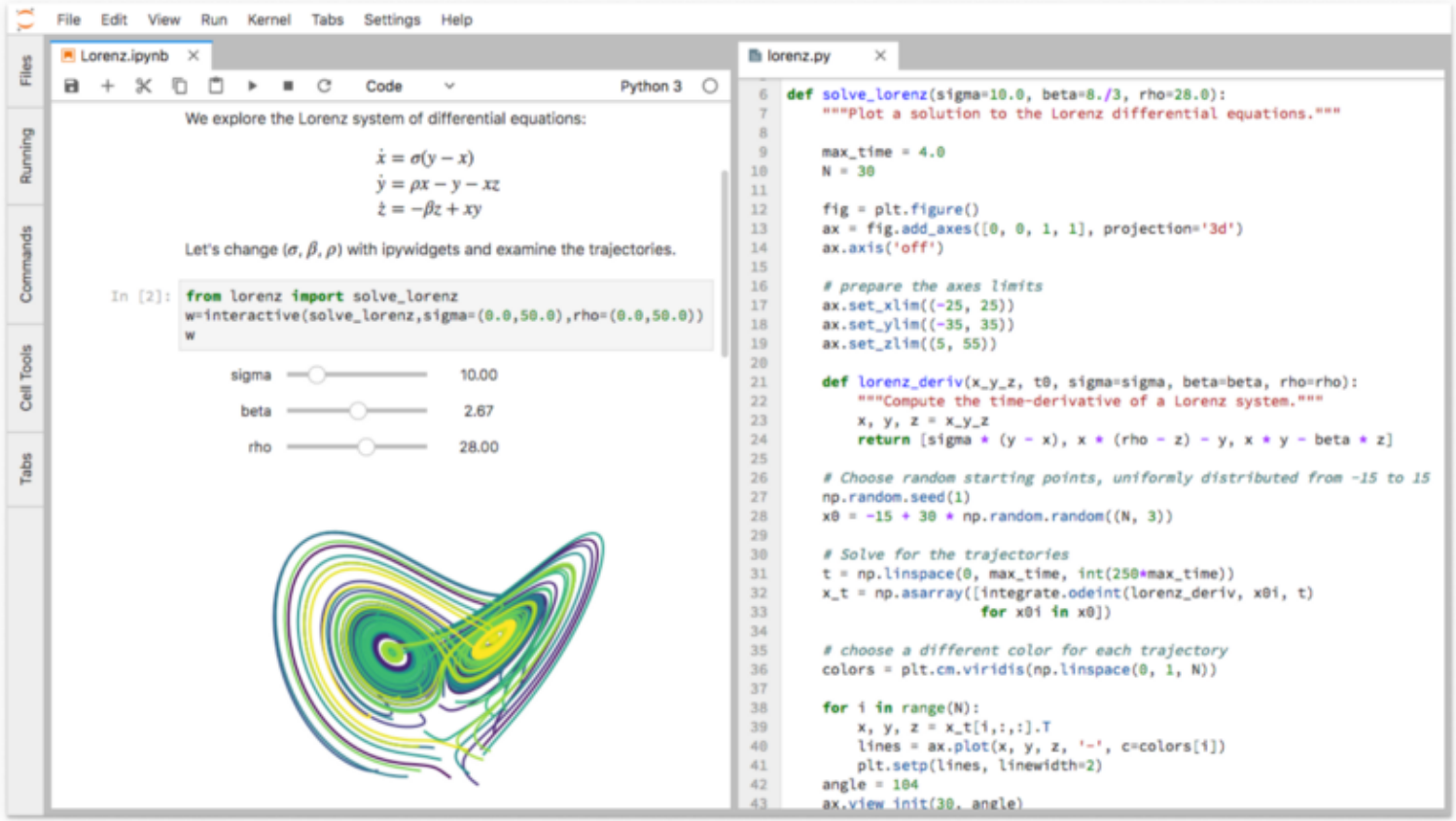
Anaconda



Python Virtual Environments



JupyterLab



Install JupyterLab into your Anaconda install:

```
conda install -c conda-forge jupyterlab
```

The actual Anaconda Cloud entry is here:
http://bit.ly/2Facu5r