Links for "Teaching Software Engineering Using Data Science"
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Processing https://processing.org/

Freely-downloadable Java variant aimed at the visual arts and data visualization applications. Easy graphics, lots of examples and tutorials. Also has largely experimental Android and Python modes, too.

Processing.js http://processingjs.org/

JavaScript based version of Processing

A freely-downloadable tool based on Java and enabling easy, graphical data visualization.

Python-based Machine Learning Notebook (originally presented by Michael Dupont at the Orlando Python Meetup)

https://github.com/orlandopython/ML-Workshop

Flowing Data http://flowingdata.com/

Lots of interesting datasets and ideas for Data Science and Data Visualization here. Lots of the R language, but some Python and Processing as well.

Orlando Area Fire/EMS Active Calls

Web-scrape one or more of these for police, fire and EMS calls in and around "The City Beautiful" - follow crime and heartache in the land of the Mouse, in near-real time. *Many large metropolitan areas will offer similar resources, either archived or real-time.*

https://www.ocso.com/calls-for-service

http://www.orangecountyfl.net/EmergencySafety/FireRescueActiveCalls.aspx#.VvvVduIrKUk

http://www1.cityoforlando.net/opd/activecalls/

Software Defined Radio (SDR) as a source for Data Science Projects.

Fiddle one of these together using your Raspberry Pi and capture your own aircraft tracking and telemetry data for student projects, as well as satisfying your own morbid curiosity.

http://www.sysrun.io/2015/11/16/rpi-docker-acars-receive-aircraft-sms/

http://www.satsignal.eu/raspberry-pi/dump1090.html

ThingSpeak - https://thingspeak.com/

Push and pull data into the cloud via their API.

Example: https://thingspeak.com/channels/60966

Twitter - https://dev.twitter.com/streaming/overview

A rich source of interesting data. In JSON, geocoded and wrapped in a ton of metadata as well. Pretty easy to grab with a Python script. Beware though, content completely unfiltered.

GPS data:

Inexpensive GPS, works very well. https://www.adafruit.com/product/746