Interactive Data Visualization with Altair: Syllabus

January 16, 2020 / 8:30 PM - 9:30PM EST

Important Links

Workshop Hackpack

Pre-workshop checklist, and resources to explore during and after the workshop.

Hack the North 2020++ Event Schedule

Check this out to stay up-to-date on activities, workshops, and other key happenings this weekend.

Motivator

Creating interactive visualizations and dashboards can be a pain. Most tools are in JavaScript and have a steep learning curve.

In this workshop, we'll look at Altair for Python: a library that provides a concise, expressive API for creating interactive visualizations. Through this workshop, we'll explore data using Altair, learn about the grammar of graphics, create simple dashboards, and deploy them for others to use.

Prerequisite Knowledge

Required:
- You should be comfortable with Python syntax.

Optional:
- Basic Pandas Knowledge. Check out this workshop from Hack the North 2020 or the blog post version.
- Familiarity with Google Colab.
- A dataset to apply what you've learned (here's a nice collection).

Learning Outcomes

This is what you will walk away from the workshop able to do:
- Create data visualizations using Altair.
- Make these visualizations interactive and turn them into dashboards.
- Deploy these dashboards on a webpage.

Timeline (1 hour)

Time	Module	Description
5 min.	Intro to Altair, Colab/Jupyter, and Pandas	We'll briefly motivate the tools used in this workshop.
5 min.	Checking out the data	We'll look at the data we're working with, and go over the basic Pandas functions we'll need for this workshop.
15 min.	Building up our first plot step-by-step	We'll look into the building blocks Altair provides to create static plots.t
10 min.	Extending our plot	We'll focus on how to think of Altair's API as a "grammar", and how we can evolve the plot we made into other useful visualizations.t
5 min.	Break	
10 min.	Adding Interaction	We'll turn our static plots into an interactive dashboard.
5 min.	Deploying your Dashboard	We'll export our altair visualization to a web page.
5 min.	Conclusion and Q&A	