Avoiding Flatland: Snow & Data

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So I’m snowboarder...

But not a great one.....

... and flat sections are the worst!

- Lose speed
- Less maneuverable
- More likely to crash

Data issue... Ski maps not good enough

- Not always clear gradient directions
- Loose colour grading system
- Effecitvely schematic
- Low resolution

- Better maps!
- Need data!

Enter the Mk 1 Ski Data Collector

- Every Second
- Lat / Lon position
- GPS Altitude
- Air Pressure

- Adafruit Feather controller
- uBlox GPS
- Digital Pressure Sensor
- Badass switch

Later the Mk 2

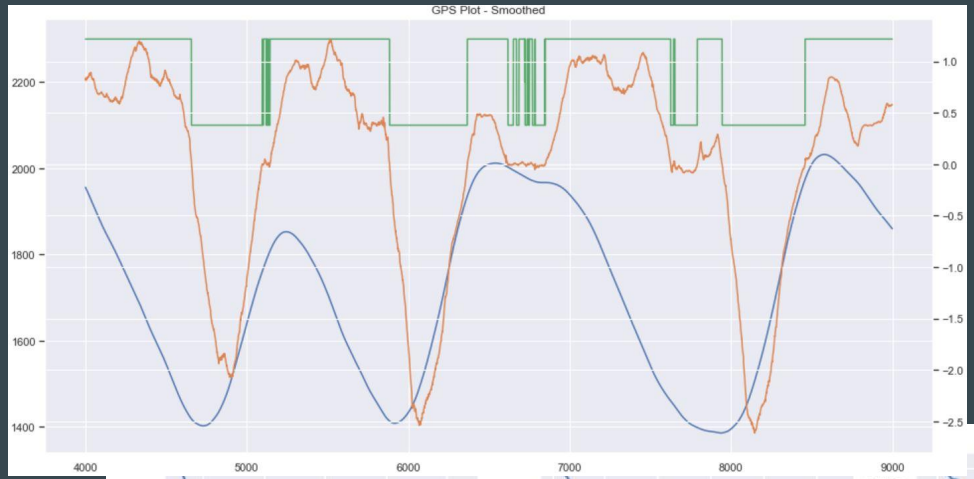
- Same components
- Easier to use
- Less suspicious

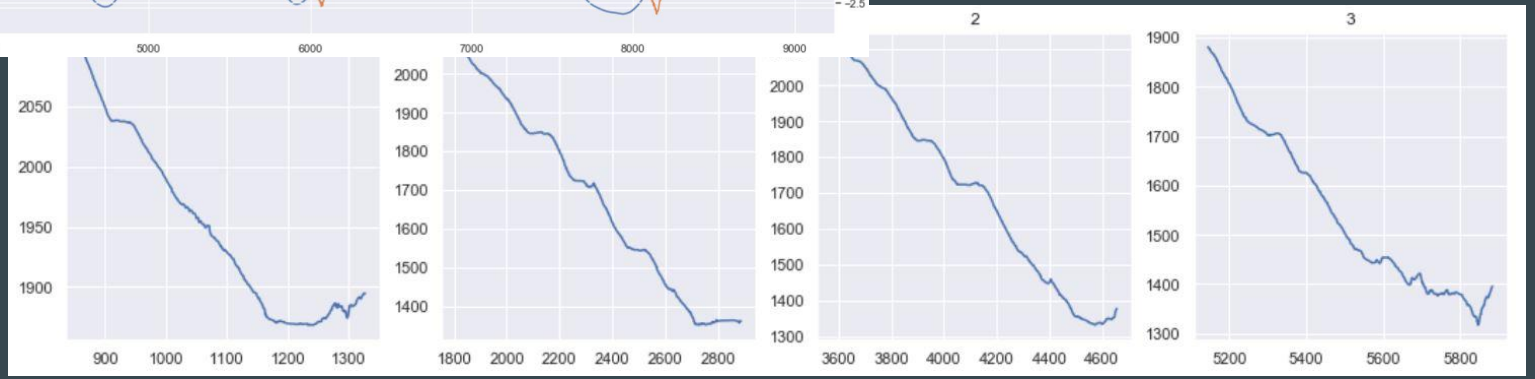
- Custom PCB
- 3D Printed case

Python as the data glue language

- Pandas
- Gpxpy
- simpleKML
- Luigi, for pipelines

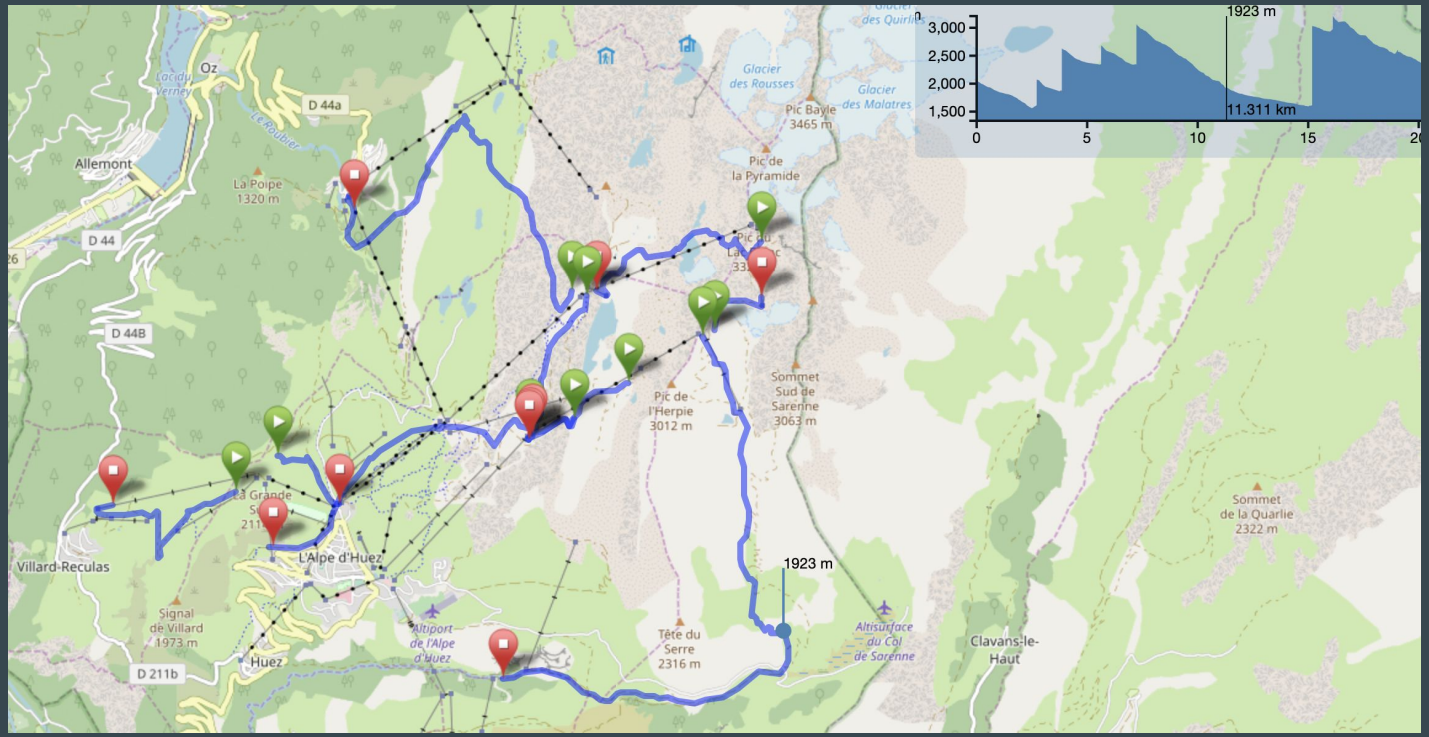
Ski run finding automatically





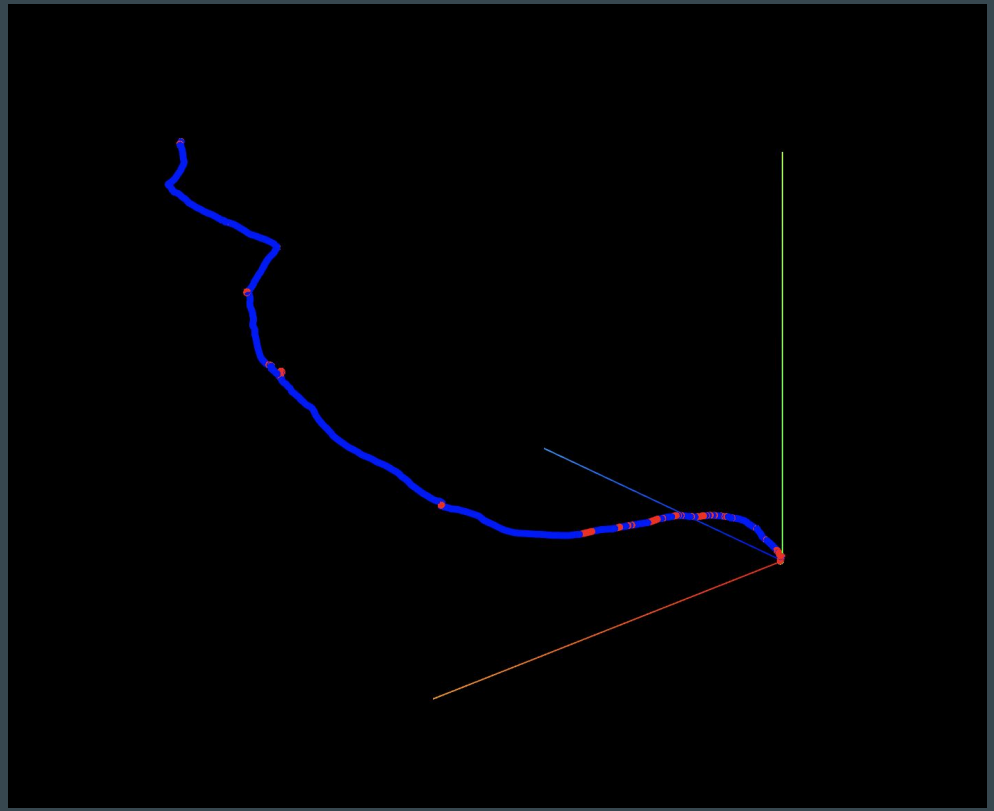
- Gradient finding
- Inversion points signal ski runs and lifts
- Extract the downhill run data

Top down maps



- Open Street Maps
- Leaflet.js
- Leaflet plugin

Rotatable 3D plots



- Interactive
- Three.js
- Gradients displayed as colour change

Live Demo!

If time permits...

Thanks for listening, some links

http://www.jjcasswell.com/skitracker/ski_chooser.html

https://github.com/jaycee14/SkiTracker

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