










Didier Dupertuis

Web developer and data-scientist passionate about visualization, history, economics and politics.

Relevant Experience

	Year	Experience	Location
	07/18 current	Research Engineer and Web Developer , Information Security and Privacy Lab (UNIL) » Developed a web-app allowing anyone to explore questions of kin genomic privacy: santeperso.unil.ch . » Participated in the creation of the kin genomic privacy algorithm behind the app. » Did the data-analysis for the upcoming scientific paper presenting the algorithm and a user experiment of the tool.	Lausanne, Switzerland
	04/17 03/18	Data-management intern , Swiss Federal Statistical Office (SFSO) » Created historicized geographical metadata to handle municipalities and regional data through time, now available as a web-app . » Developed software and processes for the reception and validation of new data. » Centralized unstructured excel regional data in a SQL database for my group.	Neuchâtel, Switzerland
	10/17 12/17	Data research assistant , University of Fribourg » Participated in data-wrangling for research on development economics in the group of Pr. Christelle Dumas » Notably retrieved a 100'000+ entries database from a badly formatted 2'000 pages pdf file in Hindi.	Fribourg, Switzerland
	11/16 06/16	Treasurer and conference responsible , UniPoly , student association for sustainability » In addition to my role as treasurer for the 2015 committee, I organised a recruitment campaign and prepared 7 conferences/debates on sustainability topics as well as a visit of the Gösgen nuclear plant.	Lausanne, Switzerland

Education

	Year	Degree	Location
	2017	Neural Networks for Machine Learning , coursera.org Certificate	Lausanne, Switzerland
	2013 2016	Master in Economics , University of Lausanne (UNIL) » GPA Master: 5.26/6 » Relevant courses: Applied econometrics, Macroeconometrics, Behavioral economics, Dynamic macroeconomic models.	Lausanne, Switzerland
	2009 2013	Bachelor in Computer Science , EPFL » Third year exchange at the Royal Institute of Technology (KTH) in Stockholm. » Relevant courses: Software Engineering, Artificial intelligence, Time Series Analysis.	Lausanne, Switzerland

Skills

Technical

Web: Javascript, webpack, Flask, Django, Node.js, Bootstrap, HTML, Sass

Data-vizualisation: d3.js, three.js, matplotlib

Data-science: Jupyter, scikit-learn, pandas, R, Keras

Programming: Python, Scala, Java, SQL, C/C++

Other: Git, AWS, Mathematica, Matlab

Languages

French: Mother-tongue

English: Professional skills (C1)

German: Professional skills (C1)

Publications

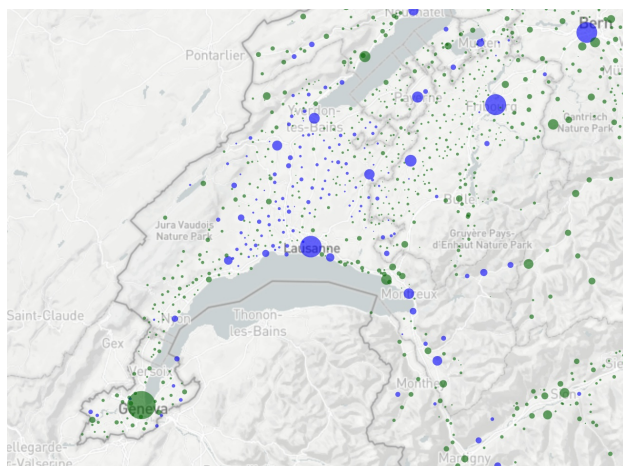
Year	Title
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2018	<p>Inheritance Flows in Switzerland, 1911-2011, Swiss Journal of Economics and Statistics</p> <p>» We estimate the annual inheritance flows and shares of inherited wealth in Switzerland over a long span of historical data, in close analogy to the study for France done by Thomas Piketty (QJE 2011). Coauthor with Élodie Moreau and Pr. Marius Brühlhart.</p>
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Projects

Population of Swiss municipalities over time

For this visualisation, I extracted population data from texts of municipalities pages of the [Historical Dictionary of Switzerland](#). Building upon the available data, I created a simple model to extrapolate the population of all municipalities until 1200. [\[github repo\]](#)

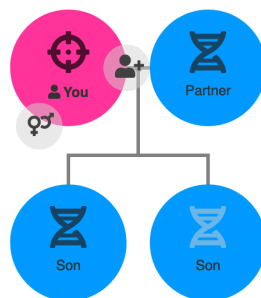


Kin Genomic Privacy Estimator

In my current position, I developed a webapp to raise awareness about the privacy risks of genomic data sharing when using services such as [23andMe](#). The web-app enables users to draw their family trees and indicate which of their relatives' genomes are known, and gives a corresponding genomic privacy score.

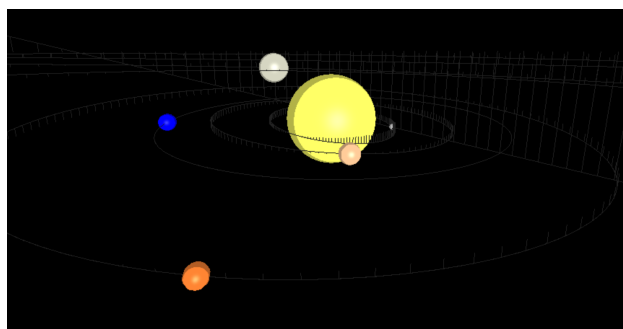
✓ Score computed in 0.13 seconds (cached).

The target's genomic privacy is **well protected**



3D Solar System

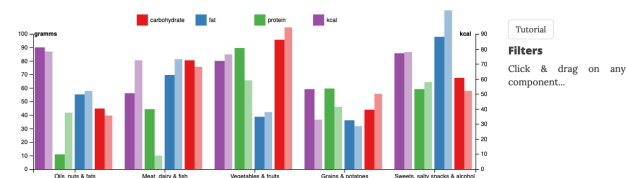
To get familiar with orbital mechanics, our solar system and [three.js](#), I am having fun on this simple solar system animation. For now it uses descriptive Keplerian Orbits. It will soon be extended with proper Newtonian Mechanics, planets' moons data and nicer sprites (WIP). [\[github repo\]](#)



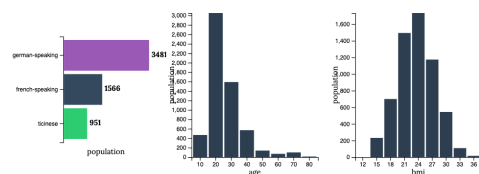
Personal Nutrition Data-viz Dashboard

This proof-of-concept personal nutrition data-visualisation is a demo built for a nutrition research project where participants collect data on their food consumption. The interactive visualization allows participants to compare their nutrient intakes across food classes with the rest of the population. [\[github repo\]](#)

Daily average nutrients intakes across food classes

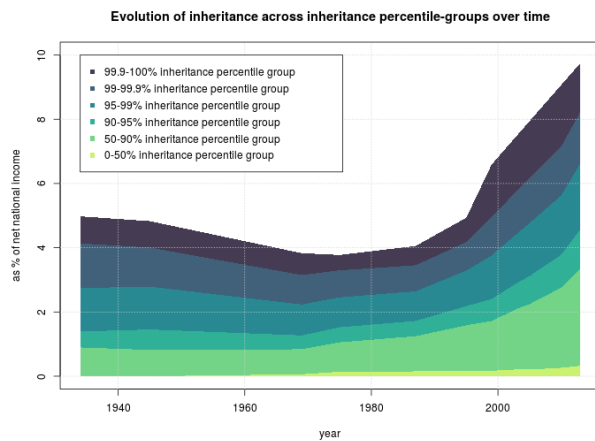


Number of individuals: 5998 proportion of women: 52%



Inheritance distribution in Switzerland

For my Master thesis, I used long-run wealth distribution and mortality data to reconstruct the distribution of bequest from 1934 to 2013 in a selection of Swiss cantons. The resulting time series shows that the distribution of bequests is less unequal than it was 80 years ago thanks to the rise of the upper middle class. Supervised by Pr. [Marius Brühlhart](#).
[\[pdf report\]](#)



Politicians and boardrooms in Madagascar

I scraped the whole Malagasy business registry to study the networks of boards and directors in important Malagasy companies using social network analysis. We find a high presence of political figures and state officials in boardrooms. Notably, Madagascar's sitting president is among the three most central nodes of the directors network. Supervised by Pr. [Marco Tomassini](#).
[\[pdf report\]](#)

