Lab 8

# Readings: Chapter 5 from Davidson-Pilon (2016a, b).

**Programming.**

**P1. Complete the example “Observing Dark World” from Davidson-Pilon(2016b) chapter 5. Extend the code to allow for up to two additional smaller halos and use the loss function to optimize the locations. Run and evaluate the code on the data available at: https://github.com/CamDavidsonPilon/Probabilistic-Programming-and-Bayesian-Methods-for-Hackers/tree/master/Chapter5\_LossFunctions/data**

**P2. Take a look at the solution proposed by William Koehrsen for using Bayesian Linear Regression to make a prediction of student grades. Test it:**

[**https://towardsdatascience.com/bayesian-linear-regression-in-python-using-machine-learning-to-predict-student-grades-part-1-7d0ad817fca5**](https://towardsdatascience.com/bayesian-linear-regression-in-python-using-machine-learning-to-predict-student-grades-part-1-7d0ad817fca5)

**P3. Go to the GESIS ZACAT platform (**[**https://zacat.gesis.org/webview/**](https://zacat.gesis.org/webview/)**), search for datasets containing student grades, download them and try to predict student grades using a method similar to that from the previous exercise.**

# Cited works:

Davidson-Pilon. (2016a). *Bayesian Methods for Hackers: Probabilistic Programming and Bayesian Inference*. Crawfordsville, United States: Addison-Wesley.

Davidson-Pilon, C. (2016b). Extras from Chapter 5. Retrieved from https://github.com/CamDavidsonPilon/Probabilistic-Programming-and-Bayesian-Methods-for-Hackers/tree/master/Chapter5\_LossFunctions/data