**DO NOT EDIT THIS DOCUMENT**

Edit “Resources.docx”under Google Docs, “not owned by me” and copy here

See also “GAM edited bookmarks 2022-01-27.docx”, “owned by me” for potentially useful bookmarks

And personal related bookmarks

Insert copy below ---->

**Resources for GAM Exploration – updated 2022-02-04**

**GAM course/tutorials**

**Introductory course** for GAM by Noam Ross, 2019, text/slides

<https://noamross.github.io/gams-in-r-course/>

**Video: Introduction to Generalized Additive Models with R and mgcv**

3:22 hr by Gavin Simpson, in depth discussion of parameters and examples with multiple variables

<https://www.youtube.com/watch?v=sgw4cu8hrZM>

**Slides** for above Gavin Simpson  Intro seminar

<https://fromthebottomoftheheap.net/slides/gam-intro-webinar-2020/gam-intro.html#1>

**Part of stat course with example of applying GAM to ecological data**

<http://plantecology.syr.edu/fridley/bio793/gam.html>

See list of other videos for GAM below

**Version Control**

**GIT-**Step by Step Setting up GIT with Rstudio.

Written for stat course, Online “book”, (has images with Oct. 2021 dates)

<https://happygitwithr.com/big-picture.html>

Slightly condensed version of above in journal paper format (2017)

https://peerj.com/preprints/3159v2/

**Google Docs**- Documents stored on server. Can have version control by naming stored versions.

No local/offline version control. Can share files but no branching and merge?

<https://en.wikipedia.org/wiki/Google_Docs>

G**IT** - Simplified summary of architecture and sharing and merging.

<https://www.freecodecamp.org/news/the-google-doc-of-coding-git-github-ec103e87926d/>

More indepth description of git and github and alternatives, aimed at Kinsta (wordpress product?) users

<https://kinsta.com/knowledgebase/what-is-github/>

https://kinsta.com/knowledgebase/git-vs-github/

**Github** guides

<https://docs.github.com/en/get-started/quickstart/hello-world>

<https://docs.github.com/en/get-started/using-git/about-git>

Using Google colab (Google docs) with GitHub. Search did not find any other info on Google Docs with GitHub

<https://medium.com/analytics-vidhya/how-to-use-google-colab-with-github-via-google-drive-68efb23a42d>

**Curve Fitting – Loess**

**Loess is good for getting fast look at smoothed curve, however not good for evaluating models**

**Loess** – example varying span parameter and comparing SSE of results

<http://r-statistics.co/Loess-Regression-With-R.html>

VB:Did not work for root data, generally online comments suggest not suitable for finding “good fit”

“The loess function gives a straightforward way to create smooth responses for simple regressions, but its utility ends there: the fit is not based on likelihood and there is no easy way to compare whether this model fits better than other (e.g., parametric) models, nor is there a way to accommodate non-Gaussian error functions.“

from Fridley

**GOOD Introductory Videos to GAM includes videos mentioned above**

[**https://www.youtube.com/watch?v=6V\_VvweZkoI**](https://www.youtube.com/watch?v=6V_VvweZkoI)

R Tutorial: Nonlinear Modeling in R with GAMs | Intro. By Noam Ross, 4.2 min.

(Intro to DataCamp course)

[**https://www.youtube.com/watch?v=8doPTpkAWDQ**](https://www.youtube.com/watch?v=8doPTpkAWDQ)

R Tutorial: Multivariate GAMs by Noam Ross, 5 min.

(Intro to DataCamp course)

<https://www.youtube.com/watch?v=sgw4cu8hrZM>

**Introduction to Generalized Additive Models with R and mgcv**

3:22 hr intro by Gavin Simpson

In this online webinar I will introduce participants to splines and how GAMs use splines to learn from the underlying data. I'll show you how splines work and describe the different types of splines available in mgcv and what they can be used for. In addition, I'll cover \* model fitting in R with mgcv, \* model checking and diagnostics, \* plotting and working with GAMs.

**Slides** for above Gavin Simpson  Intro seminar

<https://fromthebottomoftheheap.net/slides/gam-intro-webinar-2020/gam-intro.html#1>