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Directory contents:

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  - TEMP_DATA: temperature data used for dnngp
- dnngp:
  - Makefile
  - nngp.cpp
  - pfiles-realdata: input files for 3 different chains for temperature data
  - pfiles-syntheticdata: input files for 3 different chains for synthetic data
- libs: library files used for nngp.cpp

NETemp:

- dynLM_tempdata: code for running dynamic linear model on temperature data
- NEtemp_data_preprocessing: pre-processing of temperature data
- processing_results_dnngp_realdata: post MCMC processing of dnngp temperature data outcomes
- prediction_tempdata_dnngp: code for posterior prediction from dnngp

synthetic_data:

- dynLM_synthetic: code for running dynamic linear model on synthetic data
- generate_synthetic_data: synthetic data generation code
- processing_results_dnngp_synth: post MCMC processing of dnngp synthetic data outcomes
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Visualizations:

- covariance_matrix_visualization_data: code to generate data used for covariance matrix visualization
- covariance_matrix_approximation: code to compute and visulaize inverted covariance and approximate covariance matrices
- data_visualization: code to visualize temperature data

Overview:

dnngp code slightly adapted from "response-matern" code taken from (Finley et al., 2019). dnngp code was run on the "Hamilton" Durham University HPC.

Citations:

Finley, A. O., Datta, A., Cook, B. D., Morton, D. C., Andersen, H. E., and Banerjee, S.

(2019), "Efficient Algorithms for Bayesian Nearest Neighbor Gaussian Processes," Journal

of Computational and Graphical Statistics, 28, 401–414, pMID: 31543693.