The GCRF tool:

The Gaussian Conditional Random Fields (GCRF) is a structured regression model that incorporates the outputs of unstructured predictors (based on the given attributes values) and the correlation between output variables to achieve a higher prediction accuracy. This representationally powerful model is applied successfully for various social and information networks predictive modeling tasks.

GCRF GUI TOOL integrates various GCRF methods and supports training and testing those methods on real-world data from different domains.

Download GCRF software tool at
https://drive.google.com/file/d/0B_vOEFyds9xYZXNlaHE0Zk9MYjA/view?usp=sharing

When you download and unzip the file run gui.jar file. User manual is included in the same folder, so refer to it.

Problems:

1. **[Train and test networks]** Train DirGCRF algorithm on "Teen Asymmetric 3x" dataset provided with the tool. Use neural network as unstructured predictor. Also, apply standard GCRF. Model name should be Problem1. After training your model test it.
   For this task submit:
- A screenshot of message after training the model.
- A screenshot of message after testing the model.
- Zipped folder of your model (it will be located in the software folder).

2. **[Train and test temporal networks]** Train m-GCRF algorithm on "Random m-GCRF" dataset. Use linear regression as unstructured predictor. Model name should be Problem2.
   For this task submit:
- A screenshot of message after training the model.
- Zipped folder of your model (it will be located in the software folder).

3. **[Train and test random networks]** Train model for random directed graph directed acyclic graph with an arbitrary number of nodes. Also, train it by symmetric algorithm. After training these models test them.
   For this task submit:
- A screenshot of results (table) after training the models.
- A screenshot of results (table) after testing the models.

4. **[Datasets]** Add a new dataset using txt files (You can find the dataset txt files at https://drive.google.com/file/d/0B_vOEFyds9xYMjdZSnZDVzBvTWM/view?usp=sharing. Number of nodes for train is 25, and number of nodes for test is 25.) Dataset name should be Problem4. After adding dataset rename it to Problem4New.
   For this task submit:
- A screenshot of Manage dataset screen after adding your dataset.
- A screenshot of Manage dataset screen after renaming your dataset.
- Zipped folder of your dataset (it will be located in the software folder, in Datasets folder).

5. **[Questionnaire]** Once you are done with all tasks fill the questionnaire on this link:
   https://goo.gl/forms/1kVVMLc1lVe1eYU32