**Top level skeleton for a research paper**

**S: High level story line** (one bullet per explicit assumption/motivation)

1. Machine learning has shown good results to determine the number of contributors from STR profiles.
2. A machine learning output is not that informative to users.
3. Factual explanations can help users understand why a certain NOC was predicted.
4. Counterfactual explanations can help users understand why a certain NOC was not predicted.
5. A combination of both explanations improves the quality of the explanations.
6. Since counterfactual methods often rely on random feature sampling, they are prone to create unlikely examples.
7. By removing random sampling, we create more intuitive and realistic explanations.

**T: Options for the paper title**

1. Informative local model-agnostic explanations for predictions of the number of contributors in short tandem repeat profiles
2. Local model-agnostic explanations for predicting the number of contributors
3. Factual and counterfactual explanations for predicting the number of contributors

**C: Contributions** (try to have ~3)

1. Show how counterfactual methods can produce counterfactuals that are non-intuitive and unrealistic
2. Solution for intuitive, realistic counterfactual explanations
3. Solution for model-agnostic, local explanations for NOC machine learning models
4. Show that the combination of factual- and counterfactual explanations help users make decisions on the NOC

**R: Related work** (one bullet point per topic)

1. NOC Machine learning tools (*Benschop et al., Kruijver et al.*)
2. Which types of explanations work for which problems
3. Local explanations
4. Counterfactual methods (focus on distance functions, sampling)
5. Evaluation of explanations (both by users, and by measuring objectives)

**M: Goals for the method** (Not what you do; but the goal of why you do)

1. Encourage explanation research to focus on real, specific problems
2. Show that more complicated NOC models can be made without being less understandable
3. Provide insight into the user experience of explanations

**E: Questions for the experiments** (each experiment answers a question; 3 experiment types)

(Type 1: Do what you claim? Type 2: variations/baselines; Type 3: State of the art on 3 sets)

(link back to: Related baselines R, Contributions C, Method M)

1. Type 1: Q:
2. Type 2: Q:
3. Type 3: Q:

**L: Limitations and their answers** (What will reviewers say; and what is the answer)

1. L: XXX; A:
2. L: XXX; A:
3. L: XXX; A:

**Paper skeleton per paragraph**

**Introduction**

Paragraph goal: XXX

Keywords: A, B, C

Conclusion:

Paragraph goal: XXX

Keywords: A, B, C

Conclusion:

Paragraph goal: XXX

Keywords: A, B, C

Conclusion:

**Related work**

Paragraph goal: XXX

Keywords: A, B, C

Conclusion: 1. We follow; or 2. We differ because XXX

Paragraph goal: XXX

Keywords: A, B, C

Conclusion: 1. We follow; or 2. We differ because XXX

Paragraph goal: XXX

Keywords: A, B, C

Conclusion: 1. We follow; or 2. We differ because XXX

**Method**

Paragraph goal: XXX

Keywords: A, B, C

Conclusion:

Paragraph goal: XXX

Keywords: A, B, C

Conclusion:

Paragraph goal: XXX

Keywords: A, B, C

Conclusion:

**Experiments**

Paragraph goal: XXX

Keywords: A, B, C

Conclusion:

Paragraph goal: XXX

Keywords: A, B, C

Conclusion:

Paragraph goal: XXX

Keywords: A, B, C

Conclusion:

**Conclusions & Discussion**

Paragraph goal: XXX

Keywords: A, B, C

Conclusion:

Paragraph goal: XXX

Keywords: A, B, C

Conclusion: