1. **Provide your team background and organization description (if applicable).**
My name is Xueer Chen. I am the sole member of my team. I am a compute bio researcher from Bristol Myers Squibb. My research   interests are single-cell multi-omics and drug discovery.

2. **Explain why you participated in the Cytologia challenge.**
The Cytologia Challenge presented an opportunity to learn cell image analysis, a field that directly intersects with my research interests. As a single-cell researcher, I am constantly seeking ways to enhance my understanding of cellular behavior and function. The challenge provided a platform to not only test my existing knowledge but also to potentially develop novel approaches to cell image understanding.

   Furthermore, participating in this competition allowed me to engage with a community of like-minded researchers and professionals who share a passion for this field. The exchange of ideas and perspectives is invaluable for advancing scientific discovery.

3. **Describe how you built your winning model and elaborate on the technical and modeling choices you made.**

   My approach is the ensemble of 16 models, consisting of 4 detection and 12 classification models. The key is to build diversified models with proper augmentations and ensemble by averaging their probabilities.

   please refer to the technical report for details.
   https://docs.google.com/document/d/1uaP4lo6_42sqa-3KeCuWS1XZ6RbSs66OVbKWH9cj0iM/edit?usp=sharing

   model weights: https://drive.google.com/drive/folders/1t-airGVEiwAGD20PRHKgLZ7NKLPxyDlX?usp=drive_link

   colab inference notebook:
   https://colab.research.google.com/drive/1tPdwVhFCnJJAZdAWC49BVoAgfv0FIPD0?usp=sharing

   github repo: https://github.com/xueerchen1990/cytologia_2nd_place

4. **What GPU/CPU/RAM resources you used to build your model**
local workstation:
   - one RTX 3090 GPU 24GB GPU memory

- AMD Ryzen 9 9950X CPU
- CPU memory 32GB

5. **Do you have any positive feedback or improvement opportunities for the Trustii.io platform?**
   - The hosts of the forum are highly responsive and ensure that all questions are answered in a timely manner.
   - Additionally, the data provided is well-prepared and organized, making it easy to access and utilize.