

## **Mountain Classification Enhancement**

### **Areas for Improvement:**

#### **1. Model Architecture and Training:**

- **Use automated hyperparameter tuning methods like Optuna or Ray Tune to optimize performance.**
- **Fine-tune focal loss parameters for improved accuracy.**
- **Experiment with different learning rates and scheduling strategies to enhance model convergence.**
- **Implement model distillation to reduce model size while maintaining performance.**

#### **2. Data Quality and Quantity:**

- **Generate examples using templates to expand the dataset size.**
- **Include multilingual mountain names and geographical features as elevation, locations, ranges.**
- **Provide local names (for instance, model does not know about Hoverla Mount).**

#### **3. Feature Additions:**

- **Add geographical location tagging for improved contextual understanding.**
- **Enable multi-language support, handle abbreviations, and variations in mountain names for better recognition.**
- **Expand model capabilities to detect mountain-related terminology in diverse contexts.**