Case Study: TILs and TIGER GC

Introduction

Tumor-infiltrating lymphocytes (TILs) are immune cells present within and around tumors. In breast cancer, TILs are a powerful biomarker that helps predict patient response to treatment and long-term outcomes. Traditionally, TILs are scored manually by pathologists from histopathology slides, which is slow, subjective, and hard to scale.

The **TIGER Grand Challenge** focuses on building AI systems that can automatically assess TILs from histopathology images, making the process faster, more consistent, and clinically useful. This is a real-world problem where computer vision can directly impact healthcare.

Reading Material

- TIGER Grand Challenge: https://tiger.grand-challenge.org/
- TILs in Breast Cancer: https://www.tilsinbreastcancer.org/
- AI for Pathology (Nijmegen): https://www.diagnijmegen.nl/projects/airat/

These three resources define the theme of this task.

Tasks

- Read the above material and watch the videos linked there to understand the problem and how computer vision can help solve it.
- Remember: this is a real-world clinical problem, not a toy dataset.

You must also design a **training pipeline** for **any one** of the three tasks mentioned in the TIGER challenge statement.

Dataset for one such task is available here:
https://universe.roboflow.com/xray-u9rf3/wsiroisimages/analytics

Deliverables

1. A **3–5 page report** explaining:
    - The problem
    - Why it matters
    - Your approach
    - The dataset
    - Challenges and observations
2. A **code notebook** implementing any one training pipeline related to the task you selected.

Deadline

17th January, 2026