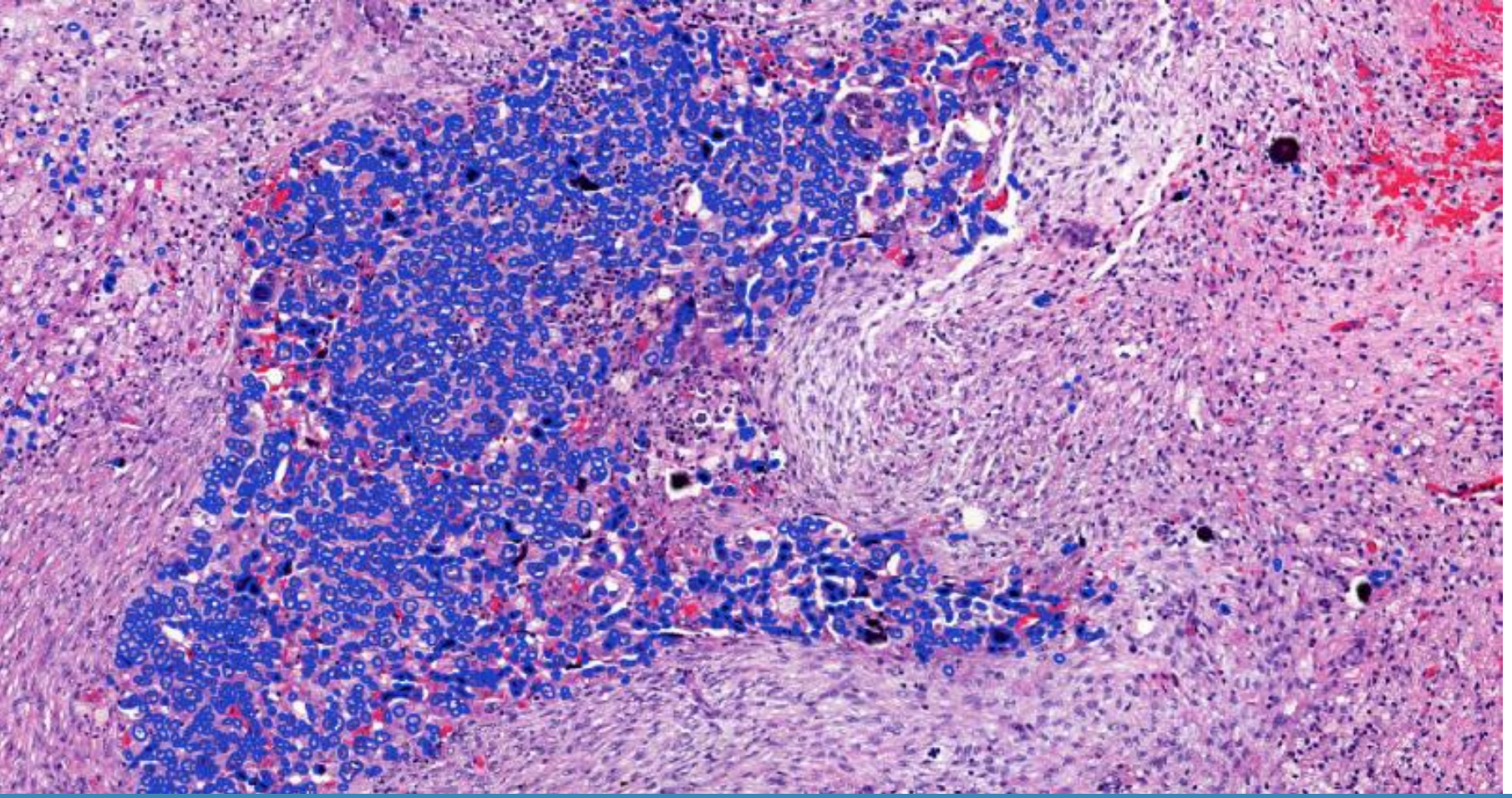

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Graph NN LAB

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2024/2025

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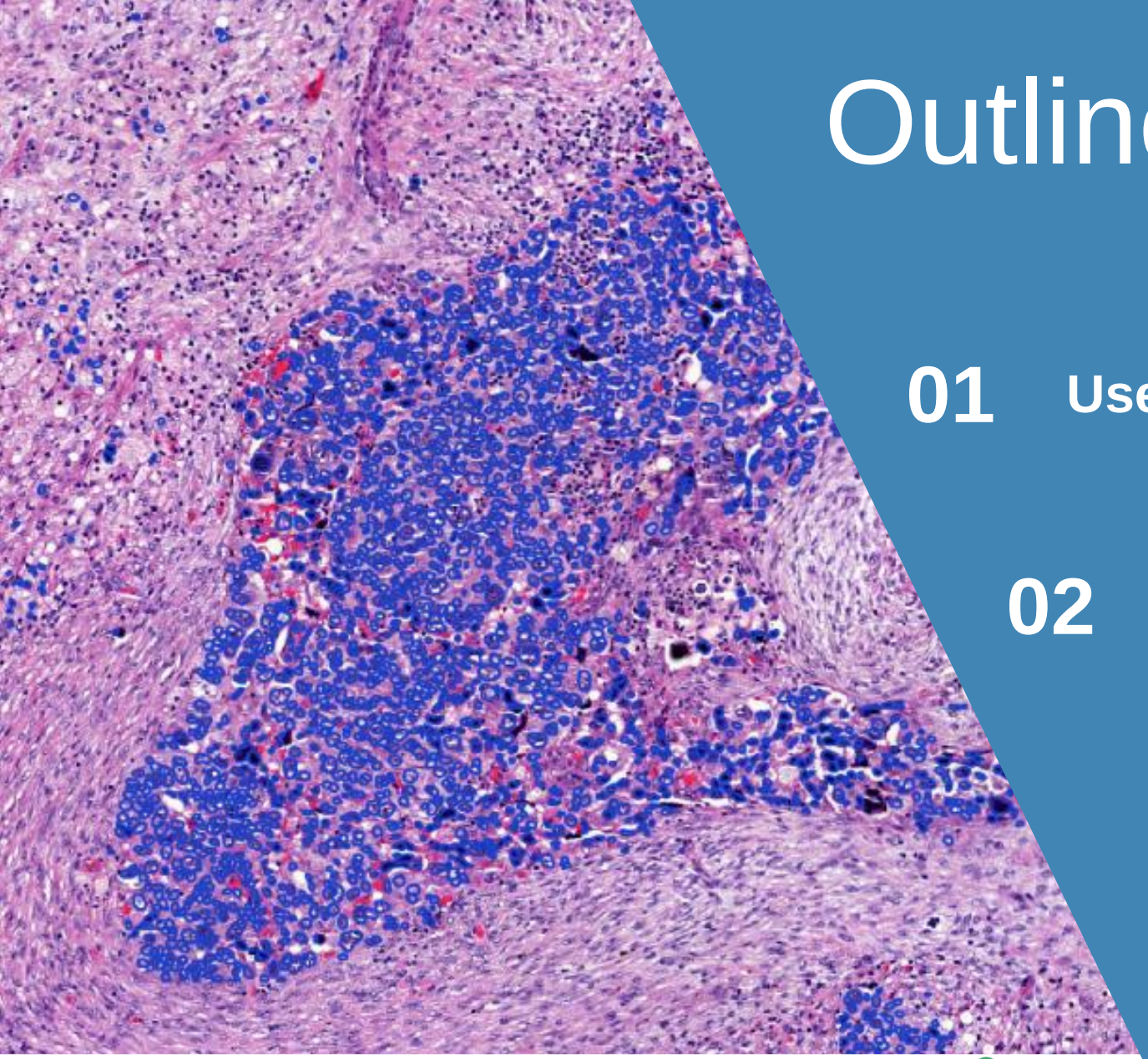

Outline

01 **Useful material**

02 **Lab assignment**

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Useful material

Start practicing with Graph NN implementation with these notebooks:

Introduction
https://colab.research.google.com/drive/1h3-vJGRVloF5zStxL5I0rSy4ZUPNsjy8#scrollTo=NgcpV4rjAWy-

Node classification
https://colab.research.google.com/drive/14OvFnAXggxB8vM4e8vSURUp1TaKnovzX#scrollTo=9r_VmGMukf5R

Graph classification
https://colab.research.google.com/drive/1I8a0DfQ3fI7Njc62__mVXUlcAleUclnb#scrollTo=qeORu4Zrs8Zy

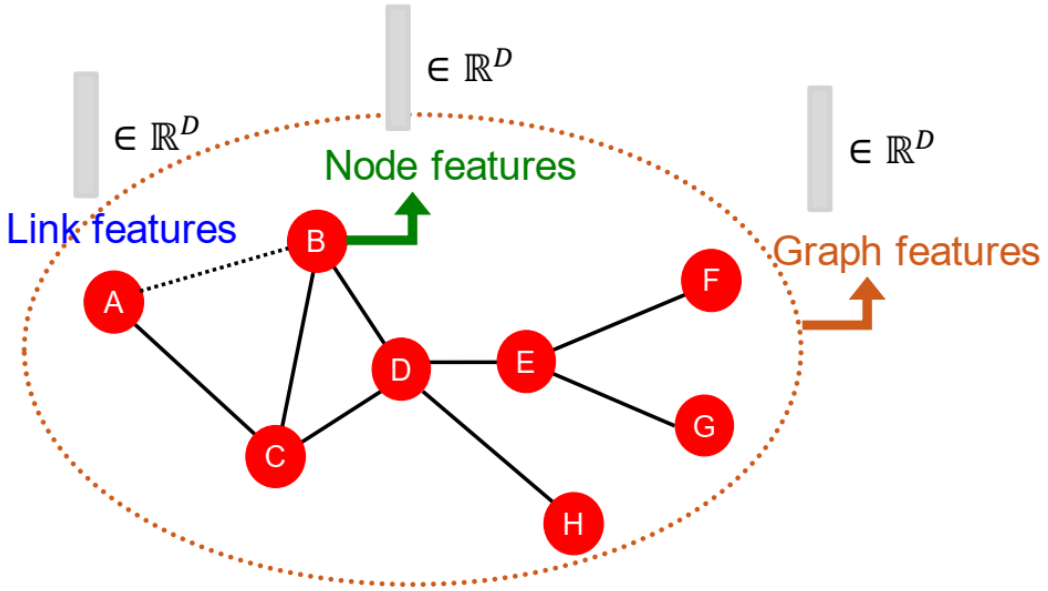
Lab assignment

Implement a GNN to classify breast cancer patients in LUMINAL A / Luminal B

1. Each network node corresponds to a patient
2. Node feature vector is the entire gene expression profile of the patient
3. Node label is the patient class (Luminal A/ Luminal B)
4. Edges are not provided; you must compute them using the Pearson correlation coefficient.

E.g., x_{ij} = corr *(*feat_vector_node$_i$, feat_vector_node$_j$*)*

5. Aim: predict patient node labels using a GNN
6. Are the performances better or worse compared to an MLP classifier?



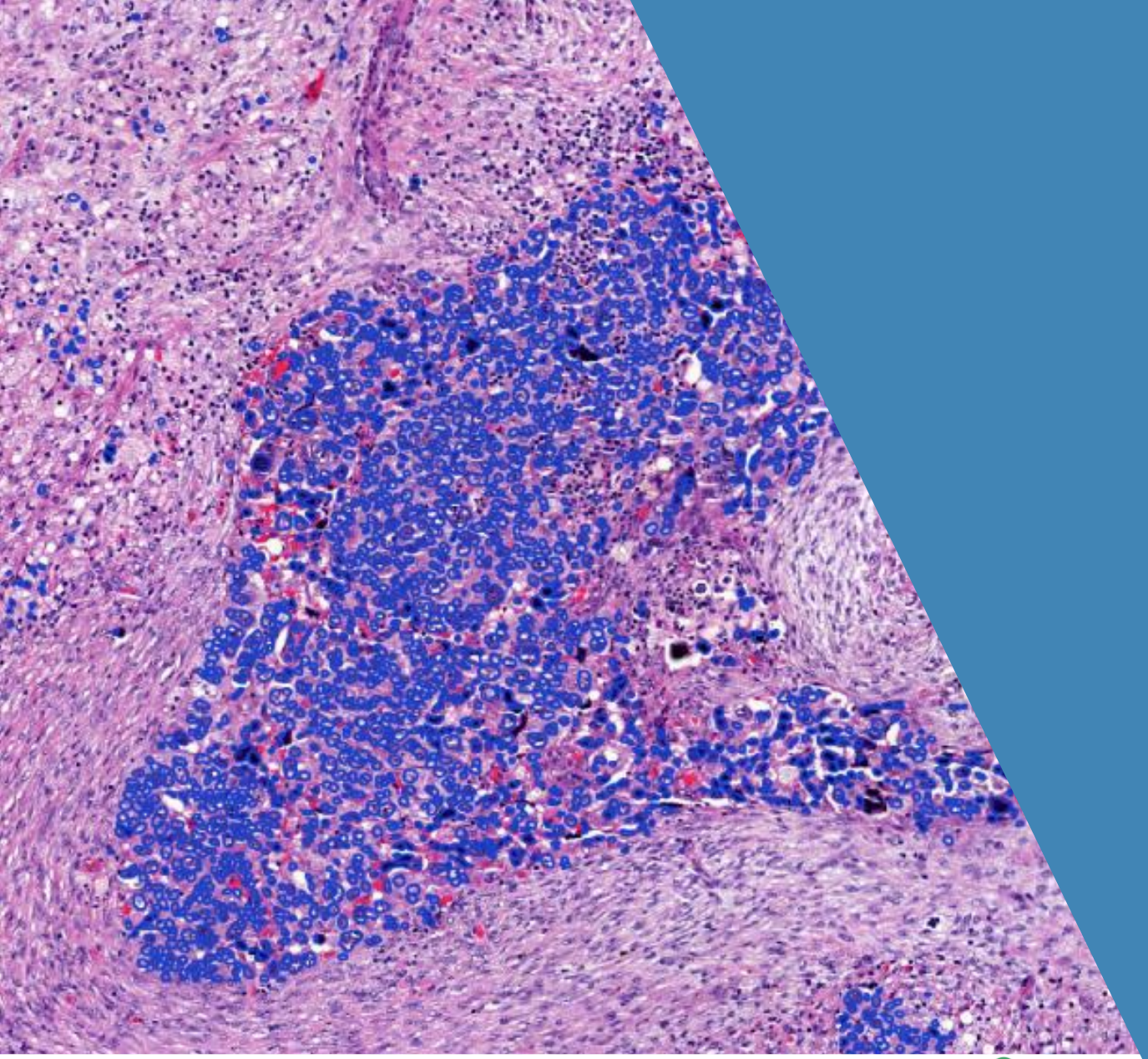
Lab assignment

The lab can be selected by the student to be evaluated for the exam modality A (written part + oral discussion).

You can ask for feedback

- During the lab
- During student consultation hours, from now to Dec 16th, on Mondays at 16:00, ONLINE

click here for the link



Questions?

Better a stupid question in class than a stupid answer in the exam

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