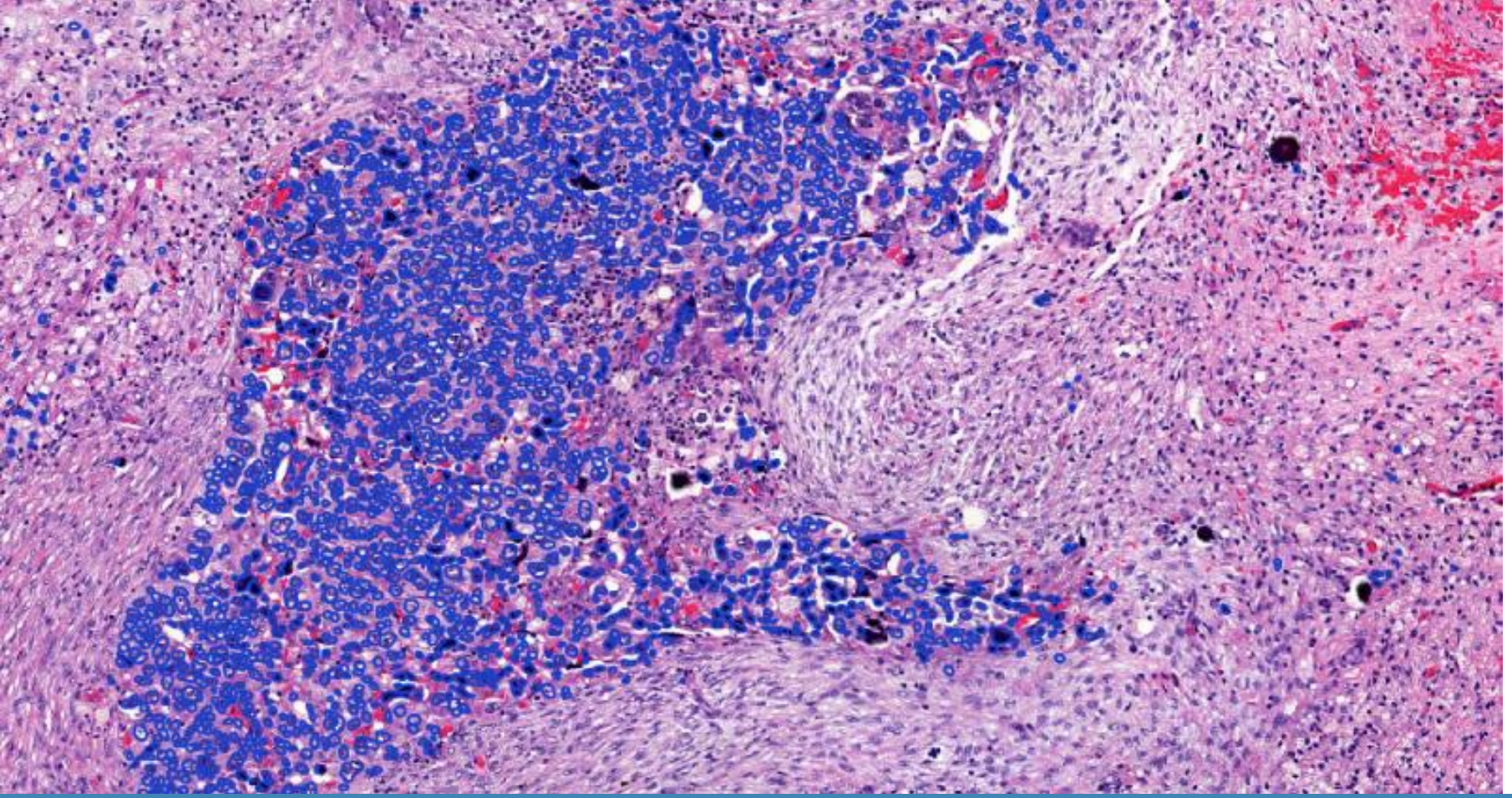

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Graph NN LAB

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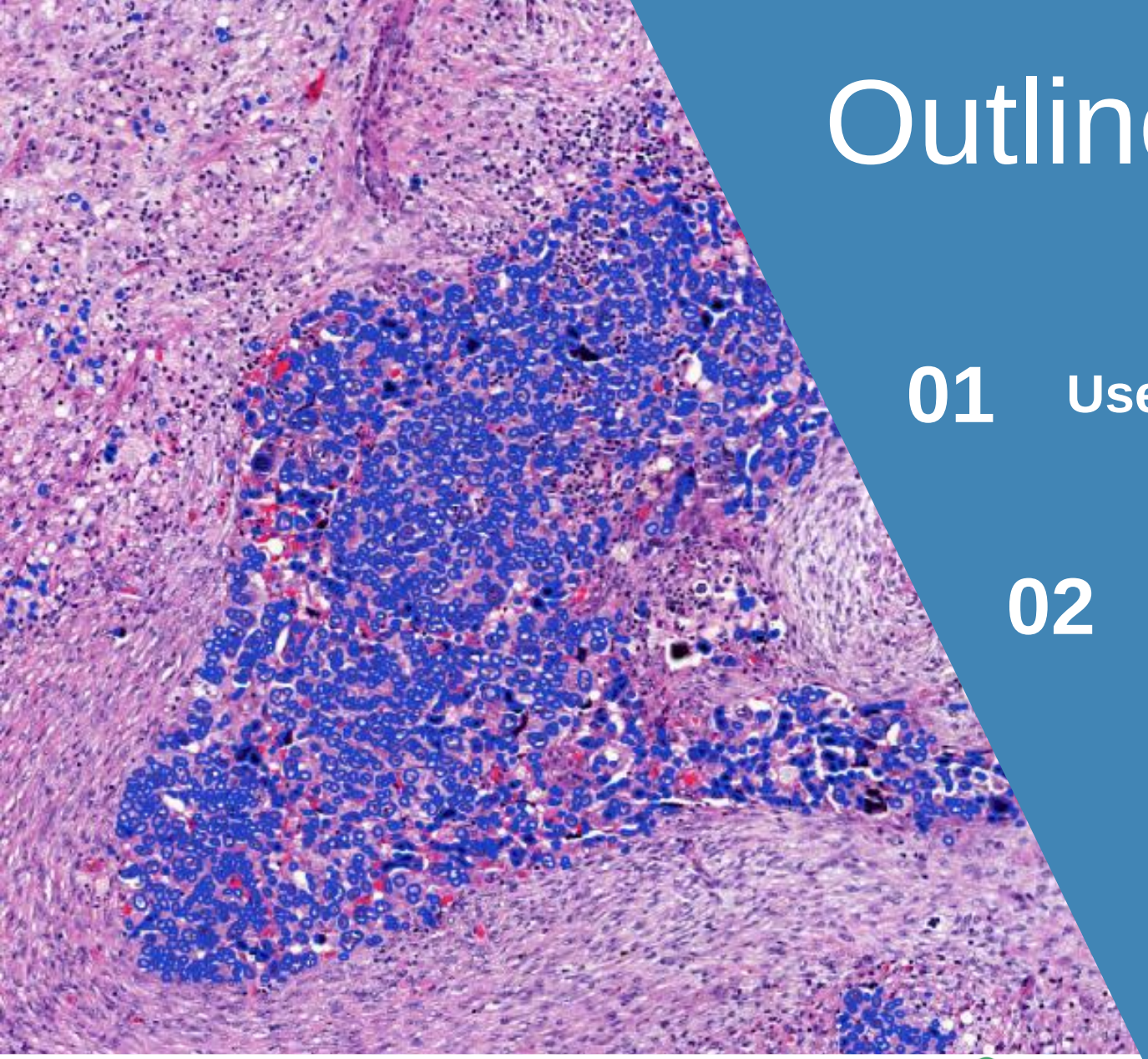

Outline

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

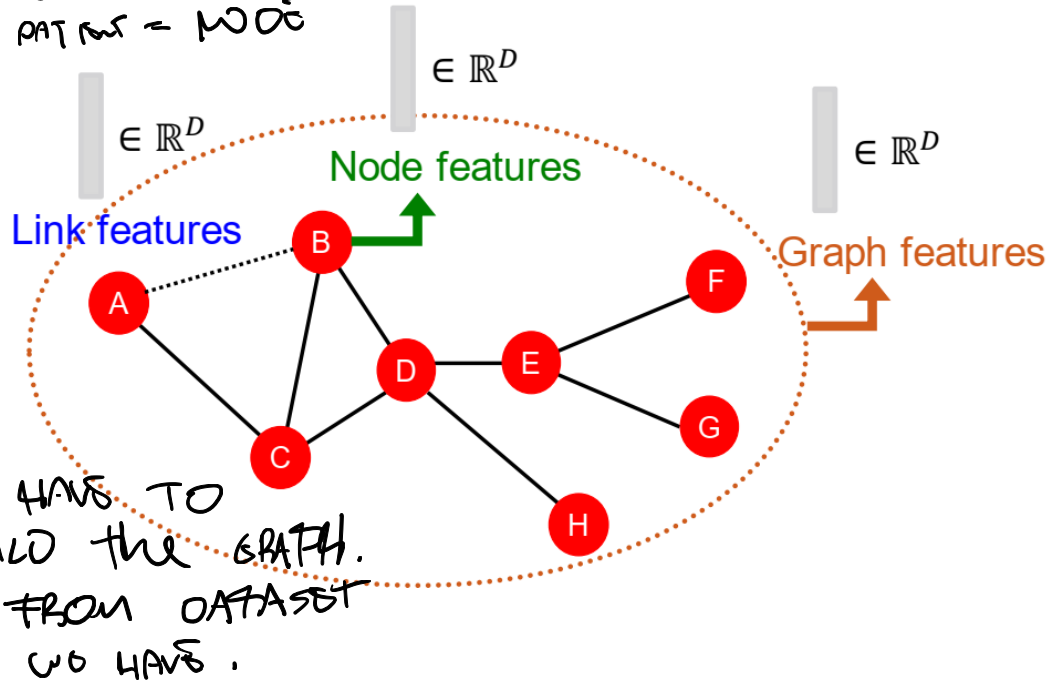
Lab assignment

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

1. Each network node corresponds to a patient → EACH LINE IS A PATIENT ⇒ EACH PATIENT = NODE
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$_j$) → WE HAVE TO BUILD THE GRAPH. FROM DATASET WE HAVE.

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



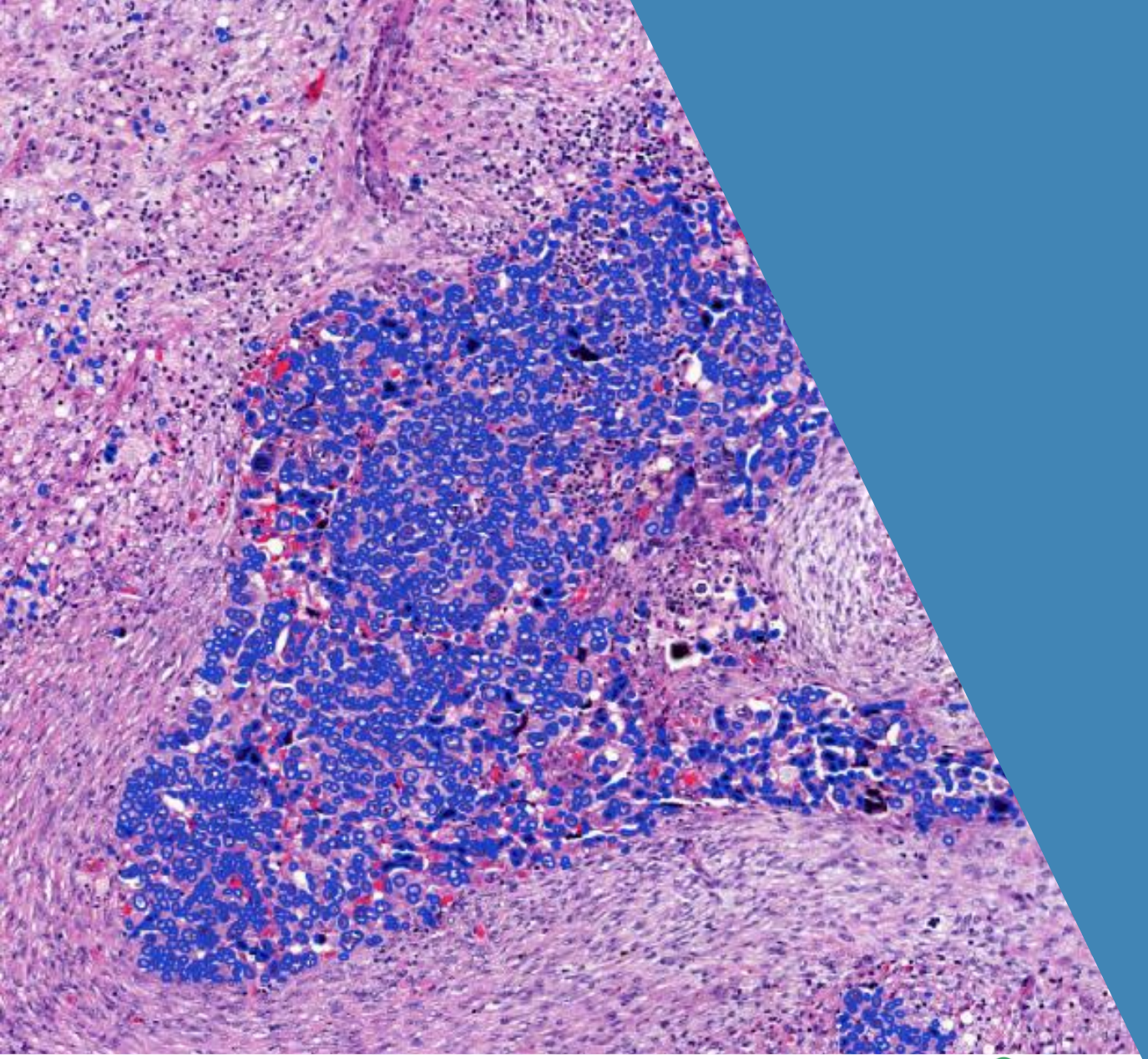
Course Folder

You are encouraged to share your scripts on the course folder, to receive comments and feedback from colleagues and instructors.

https://drive.google.com/drive/folders/1ynFYoc3xicaYhSi1X62w9k_JAj2fUrox?usp=sharing

Please upload your solutions with the proper naming:

e.g., LAB3_SURNAMEName



Questions?

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

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