DIVISION PATHOLOGY AND LABORATORY MEDICINE
PEDIATRICS

SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATE students

FOR APPLICATION YEAR: 2026

PROJECT TITLE: <u>Clinical implementation of large language models in Pathology.</u>

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Project Description

This summer project is based in Cincinnati Children's hospital and involves development and testing of large language models (LLMs) for Pathology reporting. Anatomic Pathology workflows involve processing of tissue samples from patients at Children's hospital, to create glass slides which are then examined digitally or under the microscope to generate Pathology reports. These LLM tools are expected to help with the following functions: 1) generate context specific summaries, 2) assimilate test results and apply age specific reference values to generate meaningful tables, 3) generate literature backed explanations for certain medical conditions etc. Candidate is expected to be proficient in 1) English language and 2) Microsoft word and excel including pivot tables. They should understand LLMs in general, their strengths and limitations, mechanisms to evaluate the LLMs, and fine tune the models.