Database Schema for Embryo Classification Project

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# 1. Introduction

This document describes the database schema used in the Embryo Classification project, which classifies embryo developmental stages and grades using a deep learning model. The database is intended to store prediction results for images submitted via the deployed Flask API.

# 2. Database Table Structure

Table: predictions

|  |  |  |
| --- | --- | --- |
| Column Name | Data Type | Description |
| id | INTEGER (PK) | Unique ID for each prediction record |
| image\_path | TEXT | Path or name of the uploaded image |
| predicted\_class | TEXT | e.g., morula\_Grade\_B |
| main\_class | TEXT | Main category like 8\_cells, morula |
| subclass | TEXT | Grade like A, B, C |
| confidence | REAL | Model prediction confidence score |
| timestamp | DATETIME | Prediction timestamp (auto-generated) |

# 3. SQL Schema

The following SQL command can be used to create the `predictions` table:

CREATE TABLE predictions (  
 id INTEGER PRIMARY KEY AUTOINCREMENT,  
 image\_path TEXT NOT NULL,  
 predicted\_class TEXT NOT NULL,  
 main\_class TEXT NOT NULL,  
 subclass TEXT NOT NULL,  
 confidence REAL NOT NULL,  
 timestamp DATETIME DEFAULT CURRENT\_TIMESTAMP  
);

# 4. Sample Record

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| id | image\_path | predicted\_class | main\_class | subclass | confidence | timestamp |
| 1 | /uploads/img1.png | morula\_Grade\_B | morula | Grade\_B | 0.94 | 2025-05-07 15:32:10 |

# 5. Use Case

Whenever an image is submitted to the Flask API, the prediction result is logged into this table. It helps in tracking model usage, auditing predictions, and maintaining historical data for further analysis.