**Project Overview:**

This project focuses on the generation and analysis of hyperuniform point clouds using persistent homology.

**Project Tasks and Responsibilities:**

**Task 1: Data Generation and Collection**

* **Responsible:** Enno
* **Description:** Generate hyperuniform point cloud data for analysis for different parameters and scale it using nuFFT. Generate hyperuniform Gaussian scalar fields.

**Task 2: Application of Persistent Homology**

* **Responsible:** Bekzat
* **Description:** Apply persistent homology techniques to the data and extract topological features.

**Task 3: Topological Analysis**

* **Responsible:** AbdulSalam
* **Description:** Analyze the results using topological statistics.

**Task 4: Result Interpretation and Comparison**

* **Responsible:** All group members
* **Description:** Compare results with existing studies.

**Task 5: Synthesizing Results**

* **Responsible:** All group members
* **Description:** Condense and prepare results for presenting to seminar participants.

**Timeline:**

* Phase 1 - Literature Overview: DONE
* Phase 1 - Working Plan: DONE
* Phase 2 – Task 1, Task 2, Task 3
* Pahse 2 – Task 4, Task 5