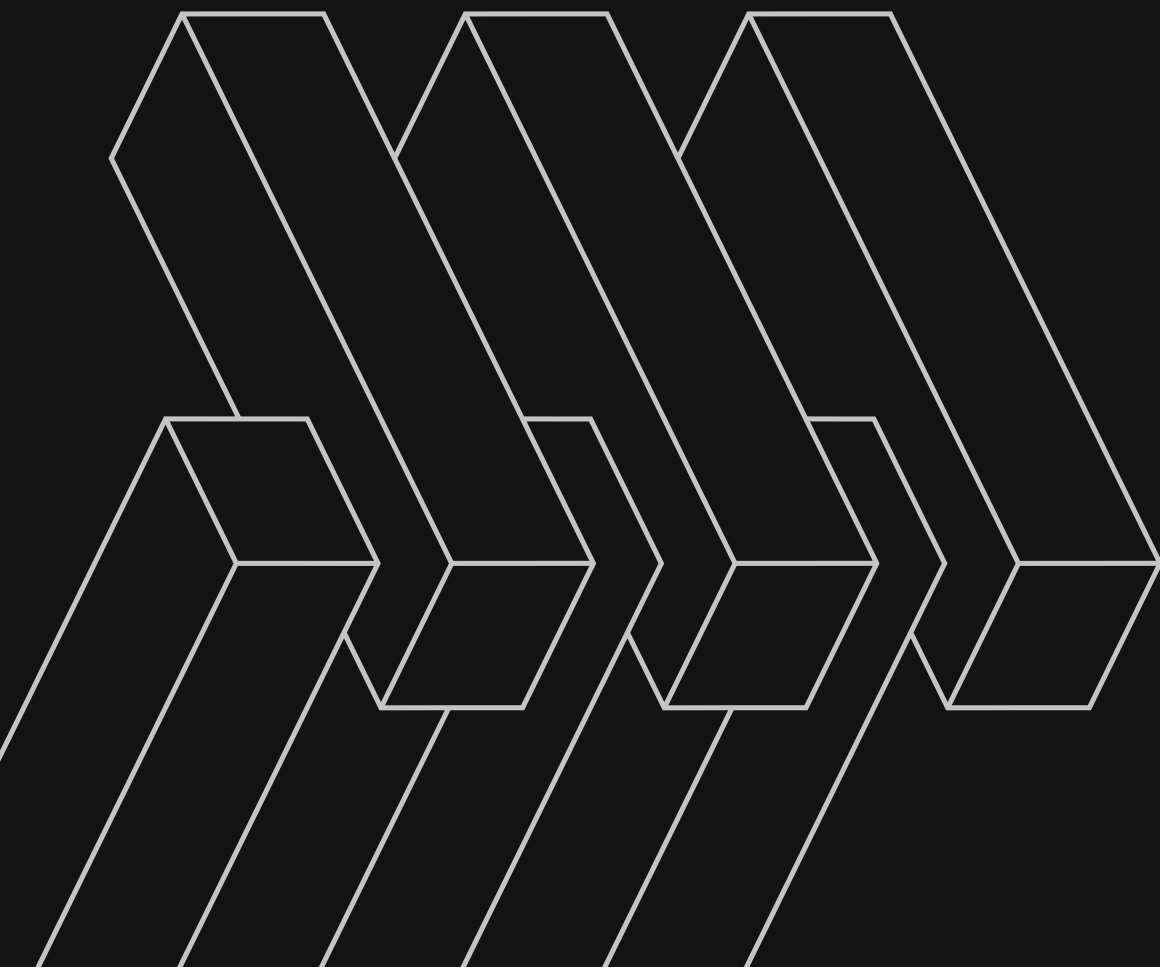# MEASURING CONCRETE STRENGTH WITH MACHINE LEARNING

PROPOSAL

INTRODUCTION

Around last years till now, what is the sector Egypt focuses on the most?

1/ Urban Construction

2/ Roads and Bridges

Because concrete is an essential part of this work, this is where our idea came from

PROBLEM STATEMENT

Concrete is a building material made up of a mixture of cement, sand, gravel, water, and other materials The most widely used building material in the world and its great importance

Importance of Concrete:

Strength and Durability:

Concrete is capable of withstanding high pressures and heavy loads, making it ideal for constructing buildings, bridges, pavements, and dams.

Flexibility in Shaping:

Concrete can be poured and shaped into any design, making it suitable for various engineering and architectural projects

Cost Efficiency:

Concrete offers an economical solution compared to other materials, especially when using locally available materials

Environmental Resistance:

Concrete withstands environmental factors such as corrosion, heat, and high humidity, extending the lifespan of structures

Because concrete is extremely important, tampering with it can lead to disasters and collapses of buildings, bridges and roads

GOALS

Concrete Compressive Strength

machine learning model to determine the compressive strength of concrete based on the materials used in its manufacture and the extent of their effect on its strength

Types of concrete, for example:

- Standard Strength Grades

- lower strength level

- High Strength Concentration

- Extreme Strength Grades

RELATED WORK

- Assessment of compressive strength of Ultra-high Performance Concrete using deep machine learning techniques

- Effects of Sand Quality on Compressive Strength of Concrete