

Lab 1.1.1: Vector and Matrix Operations

**Purpose:** To apply the definitions of vector and matrix operations by designing code that implements them using Python Notebook.

**Materials:** None.

**Instructions:**

Write Python code to perform the following functions.

1. Compute the scalar product of two vectors.
2. Compute the cross product of two vectors.
3. Compute the Hademard product (entry-wise multiplication) of two vectors.
4. Compute the sum of two matrices.
5. Compute the product of two matrices.
6. Compute the determinant of an *n* x *n* matrix.
7. Compute the inverse of an *n* x *n* matrix.