

ADAPTIVE BEAMFORMING USING MACHINE LEARNING

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INTRODUCTION

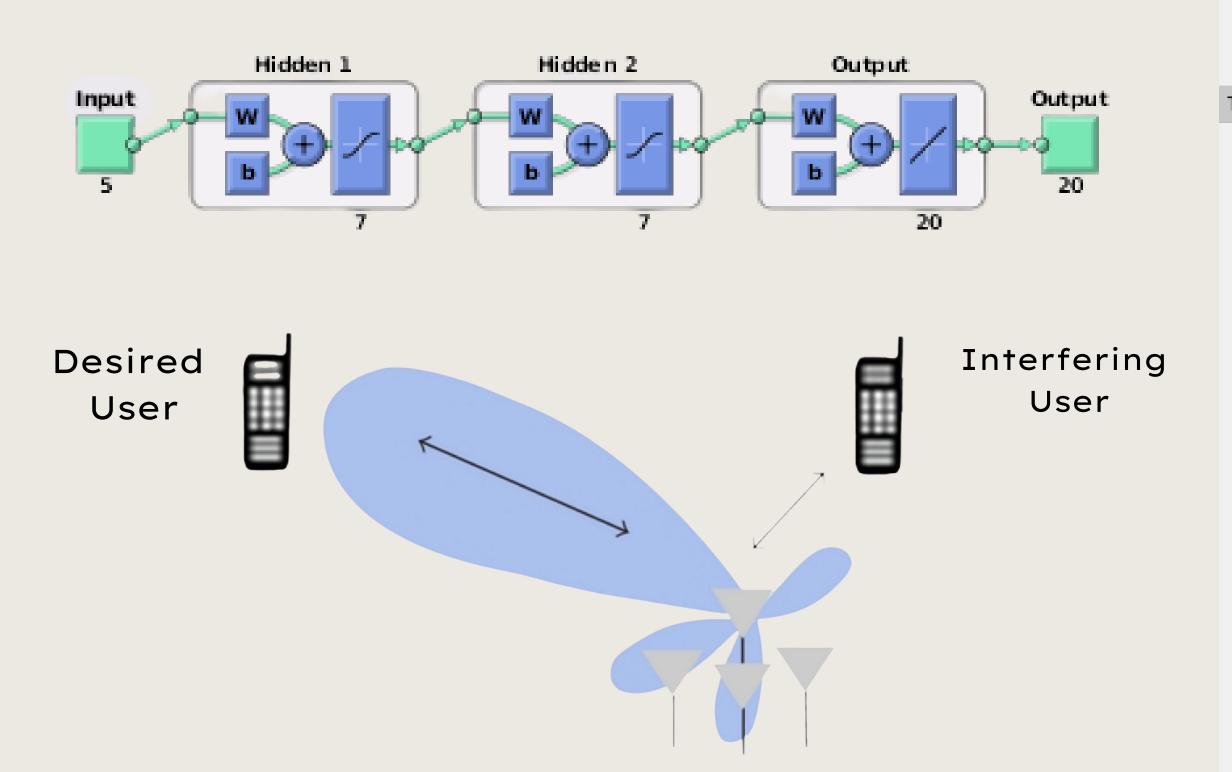
- Adaptive beamforming technique steers the beam of antenna in desired direction, while cancelling signals from interfering angles.
- In this project, Adaptive techniques joined with Machine Learning in an attractive MATLAB app with cool Graphical User Interface.

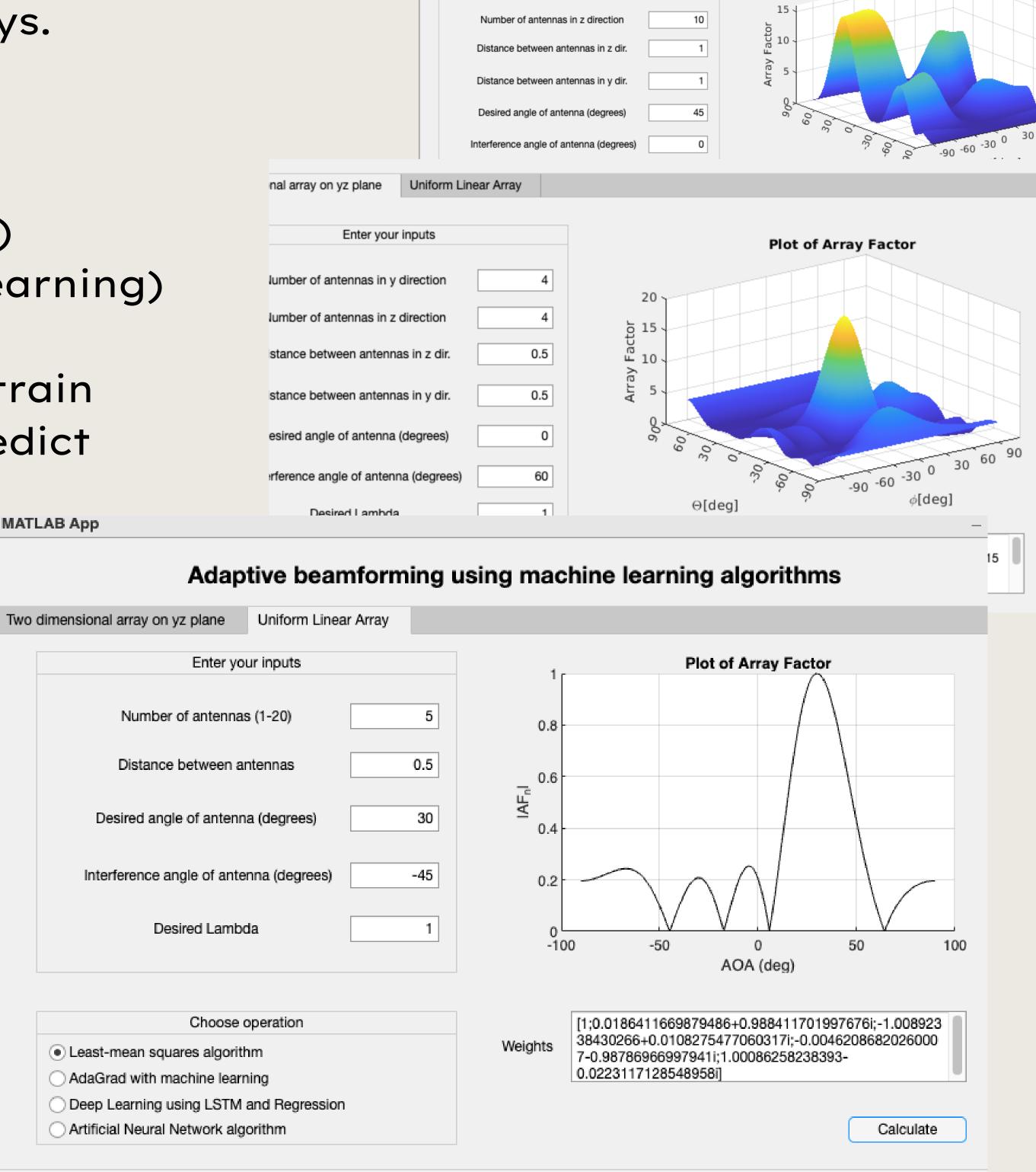
SOLUTION METHODOLOGY

Four different algorithms were implemented, to predict results for ULAs and Planar Arrays.

- 1. Least Mean Squares (adaptive)
- 2. AdaGrad (machine learning)
- 3. Deep Learning (LSTM and Regression)
- 4. Artificial neural networks (machine learning)

Training dataset was built using LMS to train models in Deep Learning and ANN to predict results for different user inputs.





Enter your inputs

Number of antennas in y direction

Adaptive beamforming using machine learning algorithms