1. Stage Aerodynamics (Physics)

Reynolds Number (Re)

500000

Inlet Flow Angle (Alpha) [deg]

7.00

Stage Solidity (Sigma)

1.20

2. Blade Geometry (Mechanical)

Blade Height (Span) [cm]

8.00

Root Chord [cm]

6.00

Tip Chord [cm]

5.00

Twist Angle [deg]

30

3. Optimizer Settings

GA Generations

20

Population Size

ACS COLLEGE OF ENGINEERING

Department of Aerospace Engineering

Project - Compressor Blade Design Optimization using Artificial Intelligence

Team Members: Anjan Kumar N, Prerana DS, Lavani C, Tejaswini H

System Architecture: Nested Surrogate Optimization Framework. This tool designs **High-Pressure Compressor (HPC) Rotor Blades** by optimizing aerodynamic efficiency (L/D) while accounting for cascade interference effects (Solidity).

Initializing Neural Network Surrogate Model...

Running `train_model()`.