



ACS COLLEGE OF ENGINEERING

Department of Aerospace Engineering

1. Stage Aerodynamics (Physics)

Reynolds Number (Re) ?
300000

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

Project - Compressor Blade Design Optimization using Artificial Intelligence

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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).

✓ AI Surrogate Model Ready

 RUN OPTIMIZATION & GENERATE GEOMETRY