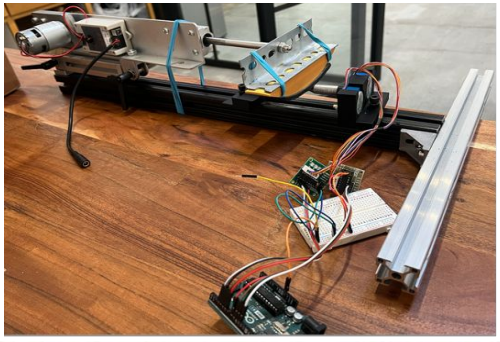
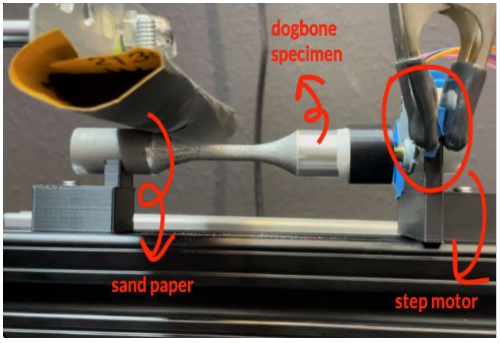
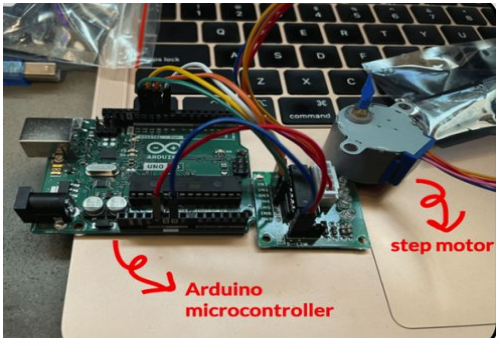
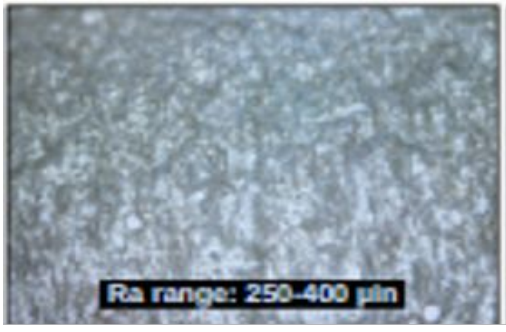
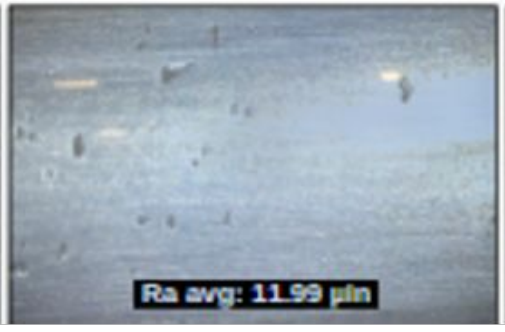
Automated Polishing Mechanism

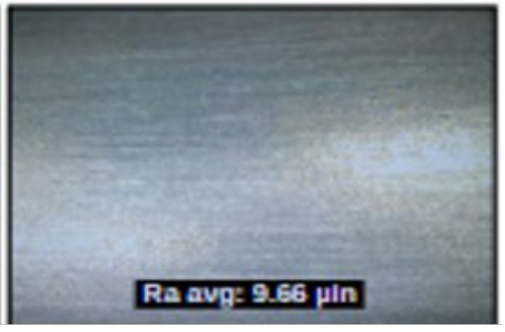












What?

Designed and fabricated an automated polishing tool for additively manufactured aluminum alloy specimens.

Conducted comparative analyses of manual vs. automated polishing using fatigue cycle life data.

How?

Optimized polishing precision and efficiency through automation.

Achieved ASTM E606/E606M-compliant surface roughness (8-12 µin Ra).

Compared fatigue cycle life data between manually polished and automated specimens.

Results

Increased polishing efficiency by 20%.

Reduced polishing time by 31%.

Enhanced fatigue life of aerospace components by achieving optimal surface roughness.