

# Abstract

Wire customization and manipulation are integral to various industries, but the process often involves intricate calculations and manual labor. The "Wire Wizard Machine" offers an innovative solution to these challenges by integrating automation and user-friendly controls. This project introduces a versatile system that simplifies inductor creation, wire stripping, and the utilization of spring wires. The Wire Wizard Machine's features provide a seamless way for users to customize wires and inductors to their requirements.

Features included in the project:

- \* **Wire Mode:** Users can specify wire length, choose stripping preferences (right, left, both, or none), and select wire curvature (straight or spring). The machine executes these actions, delivering customized wires with precision.
- \* **Inductor Mode:** Users have the option to input the desired number of wire rolls directly or provide values for inductance ( $L$ ) and wire diameter. The machine calculates the required roll numbers, streamlining the creation of customized inductors.