FUZZY LOGIC CONTROL · PYTHON EDITION · CARIMO DCMK KIT

FUZZY SPEED CONTROL

PYTHON EDITION · NO MATLAB

Intelligent, model-free speed control as a Python desktop app. Write plain-English rules, watch the motor follow. No MATLAB, no equations.

5 GUIDED EXPERIMENTS

Plain-English rules track every target speed, with no plant model



Tracking a staircase of target speeds on a live DCMK motor: a handful of plain-English fuzzy rules follow every setpoint, with no transfer function and no plant model.

IN ONE BREATH

Fuzzy Speed Control now runs as a pure-Python desktop app. Students write a handful of **plain-English rules**, spin a real motor, and refine in minutes. A live control panel, a **fuzzy inspector that shows the rules firing**, and a workbench of five experiments. No MATLAB, no toolbox, no transfer functions.

No MATLAB — no toolbox licence to buy

Live — inspector shows rules firing

5 — experiments + guided load test

One desktop app, four tools

1 LIVE CONTROL
Spin the motor and tune the rules live.

2 FUZZY INSPECTOR
Watch which rules fire, in real time.

3 WORKBENCH
Five experiments plus a voice-cued load test.

4 REFERENCE GEN
Step, staircase, ramp, sine or square targets.

Five guided experiments

1. Step response
2. Membership-function tuning
3. Load disturbance rejection (real disks)
4. Rule base A vs B
5. Membership-function shape

Why students win

No-math entry
Control real hardware before deriving any equation.

No MATLAB
A pure-Python desktop app, nothing to license.

Live insight
The inspector shows the rules firing as they fire.

Design, not tune
Every knob and rule is its own experiment.

Open Python
Readable, editable source, change any rule.

What you need

Software
Fuzzy Python app · Python 3.11 · PyQt6 desktop app
No MATLAB, no toolbox.

System
Windows 10 or 11 · one free USB port. Runs on your own PC.

Hardware
CARIMO DC Motor Kit (V1 or V2) with magnetic load disk · **sold separately**

Model-free control, no MATLAB required. Also available as a Simulink edition.

Part of the CARIMO DCMK control family, built on a 15-year teaching heritage at IIT Bombay

Request a demo or quote | **www.carimotech.com** | **contact@carimo.tech** | **+91 90823 97027**

Representative results measured on a reference CARIMO DCMK kit; figures vary with unit, load and PC. · © 2026 CARIMO Technologies Pvt. Ltd. · incubated at SINE, IIT Bombay.