



ME 407 FALL 2025

FILAMENT EXTRUDER FOR PELLETS

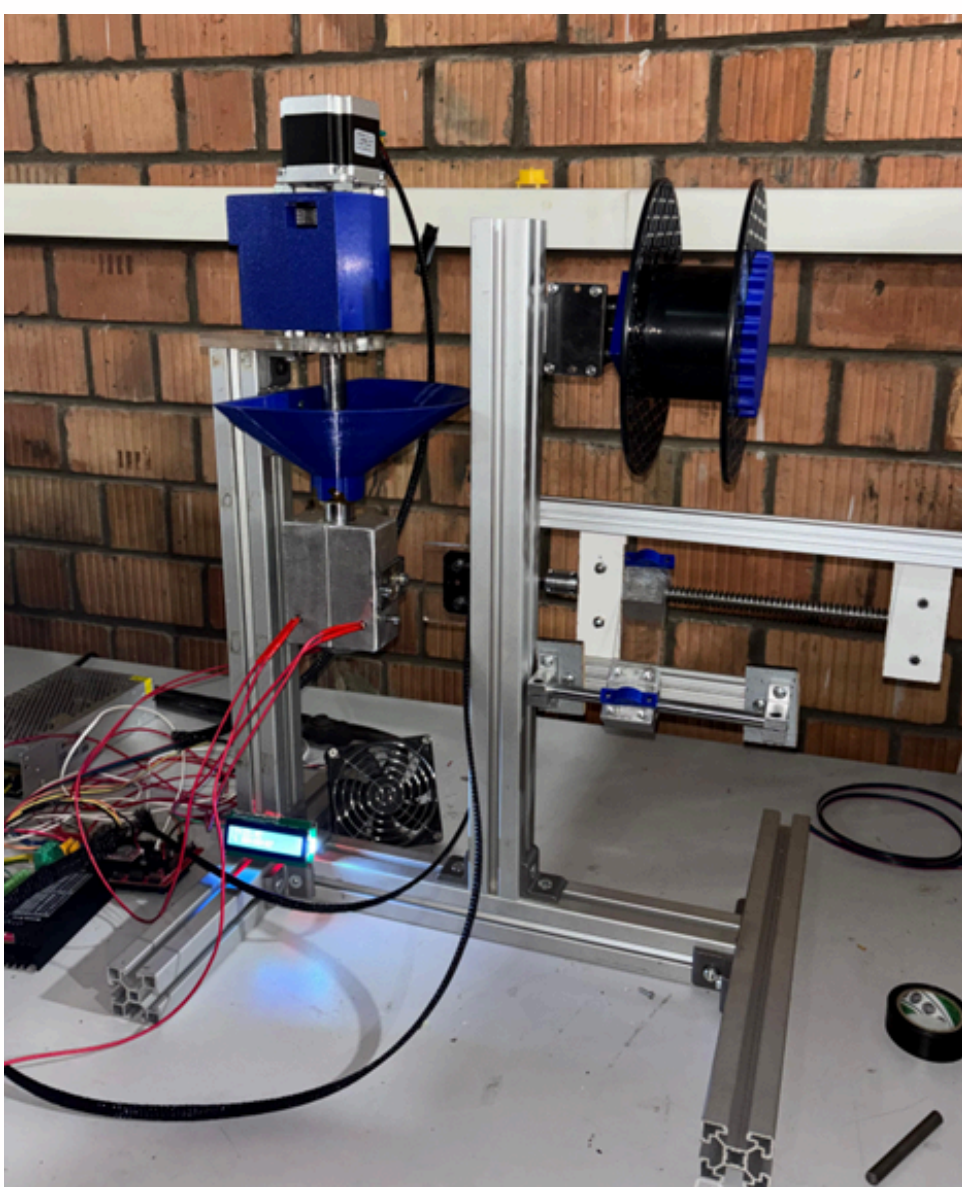
MOTIVATION

It is considered that it takes thousands of years to dissolve a plastic waste in nature, recycling is vital. Our machine recycles PLA and PETG plastic wastes into reusable plastic filaments for 3D printing.

DESIGN SPECIFICATIONS

Dimensions	< 75 x 75 x 100 cm
Total Weight	< 20 kg
Input Material	PLA & PETG (2-5 mm Pellets)
Output Diameter	1.75 mm (± 0.05 mm)
Nozzle Temperature	180°C – 260°C ($\pm 10^\circ\text{C}$)
Extrusion Speed	0.2 m/min (Nominal)
Operation Cycle	> 2 Hours Continuous
Startup Time	15 Minutes
Service Life	> 900 Hours

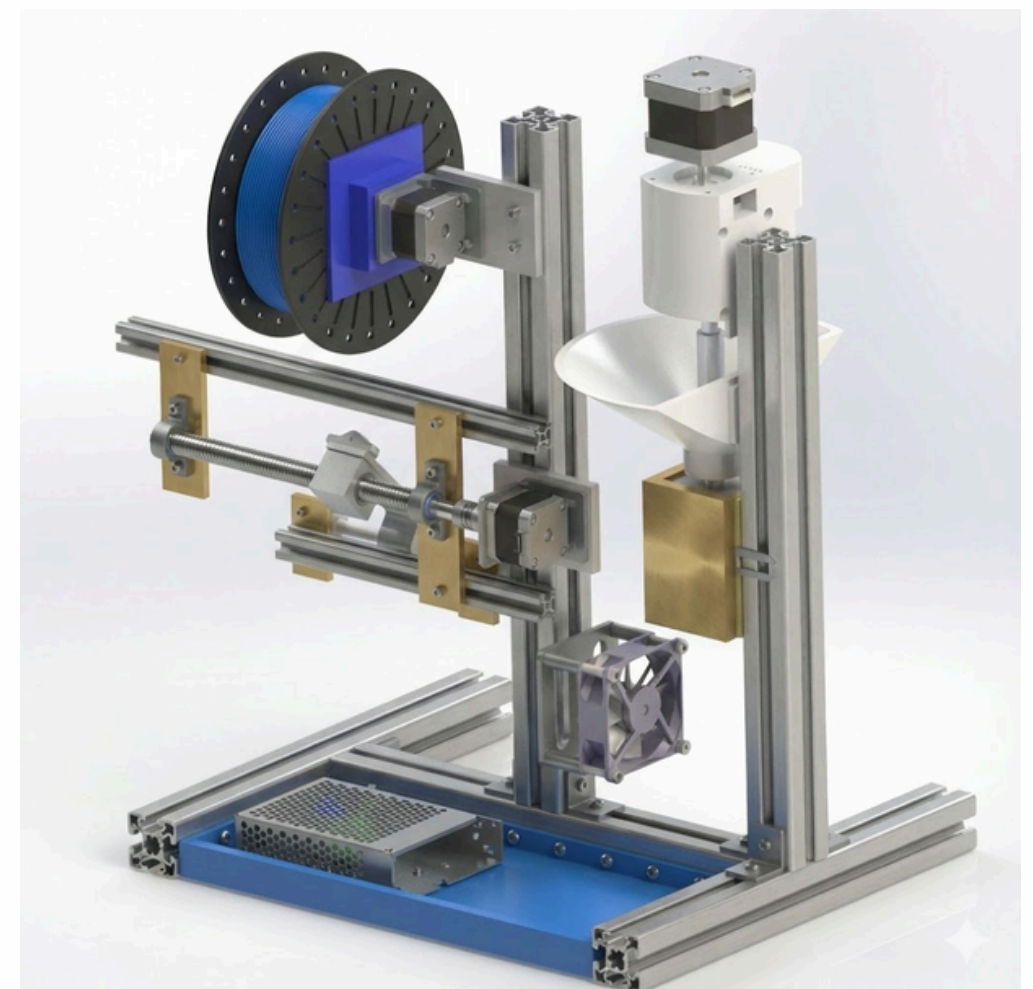
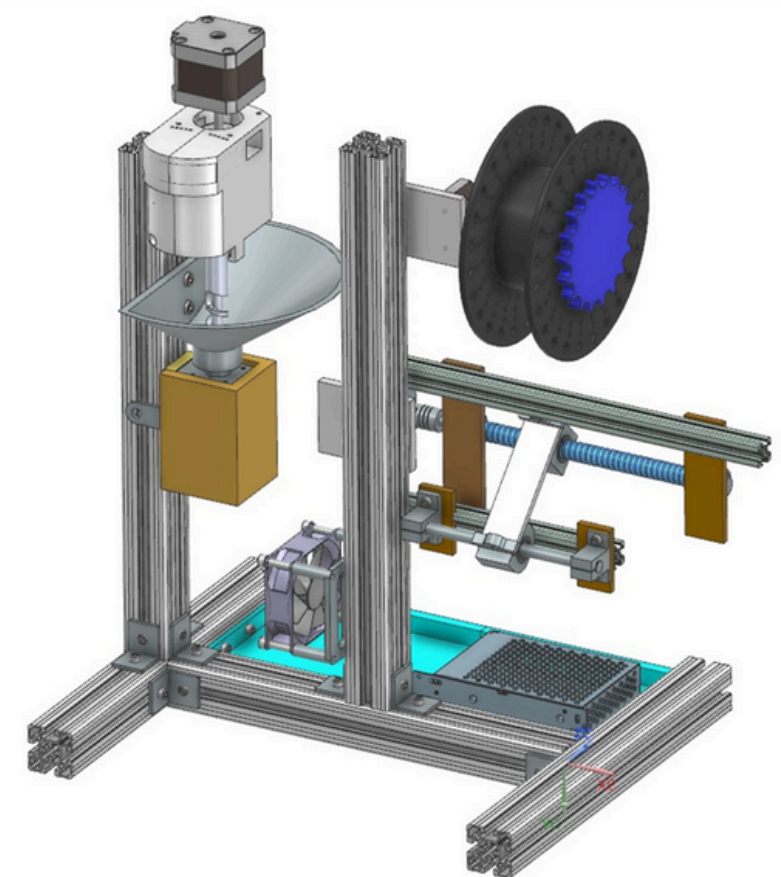
SYSTEM PICTURE



TEACHING STAFF

Course Instructor	Dr. Erhan İlhan KONUKSEVEN
Course Instructor	Dr. Gökhan Osman ÖZGEN
Supervising TA	Cem TÜRKEŞ

VISUALS



C4 - ULTRAMARINE

Aydiner AKOL
Burak Emre EVRENOS
Mehmet Furkan GÖKÇEK
Erdem KARAKURT

Mustafa Serdar TÜRKER
Engin Ada TORUN
Ahmet Hakan KARAAHMET
Ahmet Metkan YILDIRIM