

AutoPrint

A clever way to automate your 3D Printers!

Website



THE PROBLEM

Constant human intervention

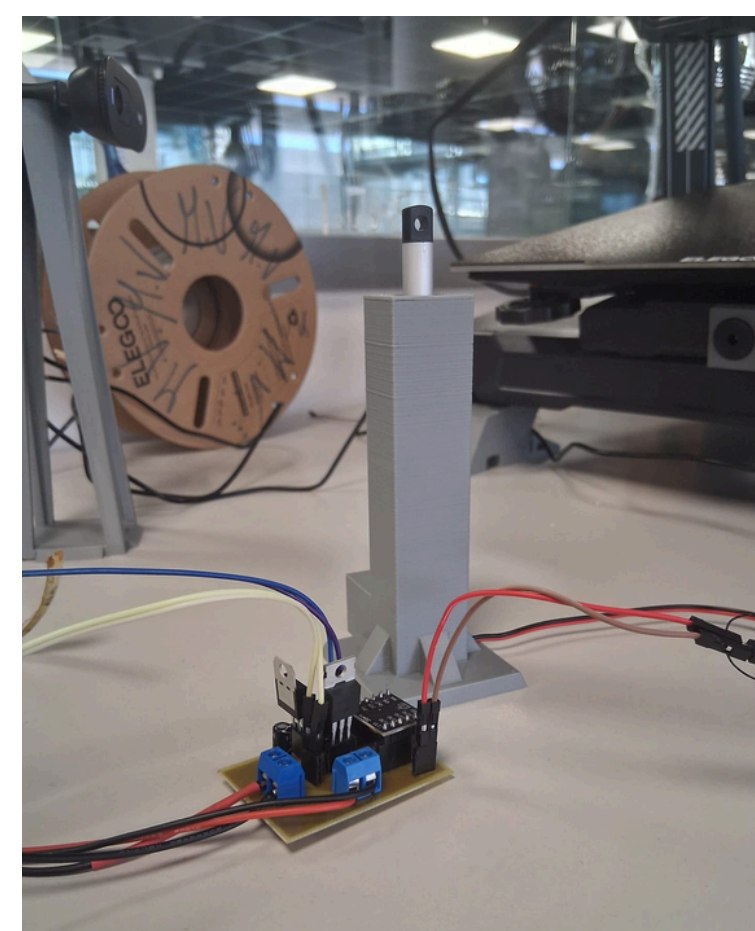
Current 3D printing services are bottlenecked by mandatory manual part removal, capping operations to human shifts and leaving machinery idle. This dependency misallocates labor to low-value repetitive tasks, halts 24/7 scalability.

OUR SOLUTION

AutoPrint is a modular and low-cost automation platform that enables continuous 3D printing operation.

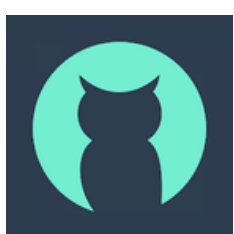
The system combines:

- Automated part removal
- Computer Vision/Machine Learning based quality control
- Remote monitoring and control
- Multi-printer management



AI DETECTION

Obico



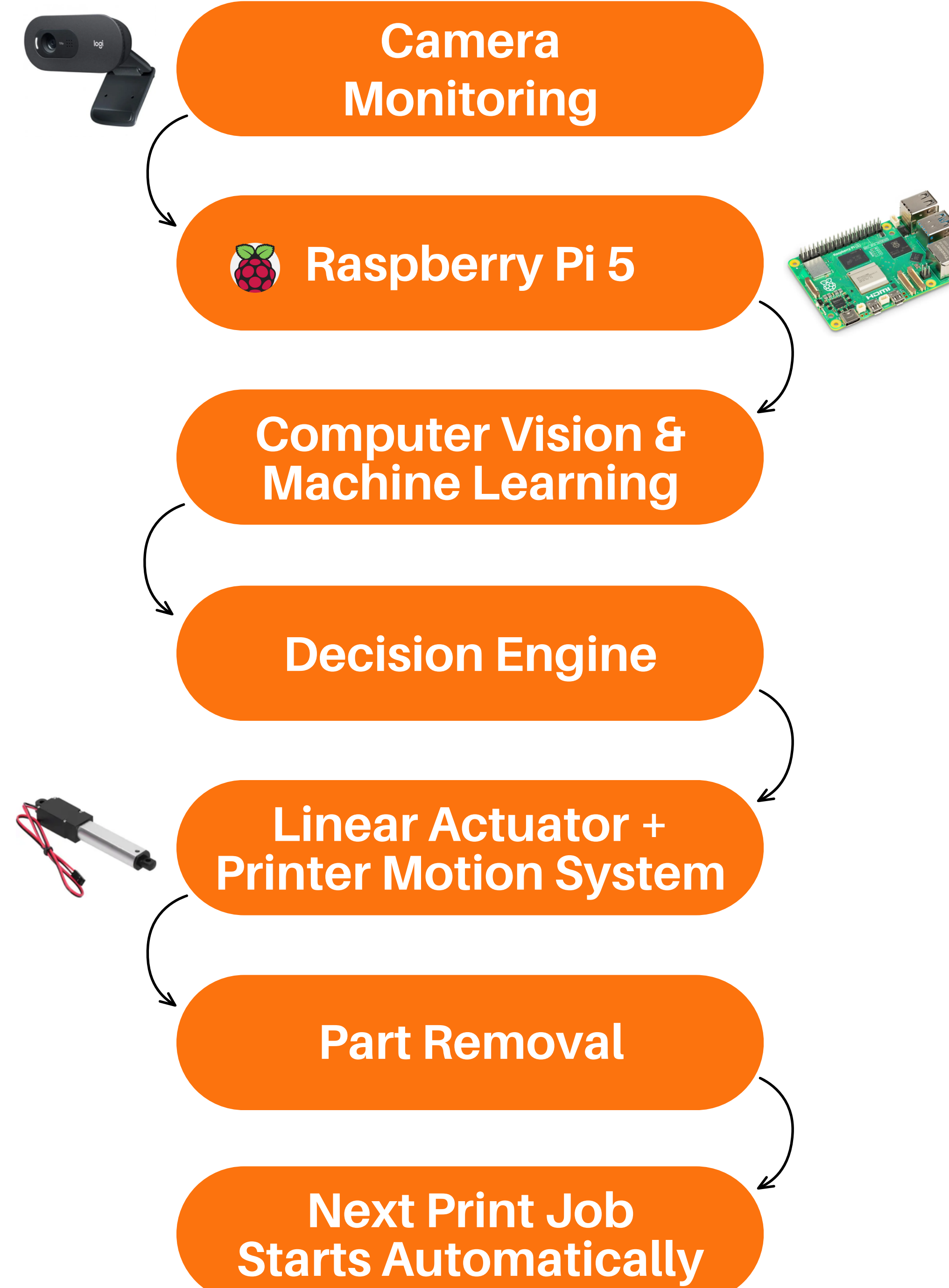
YOLO11 Nano

- ✓ Ready-to-use failure detection
- ✓ Proven 3D printing integration
- ✓ Faster deployment
- ✓ Automatic print monitoring and alerts
- ✓ Stores failure images and logs

- ✓ Customizable AI model
- ✓ Project-specific training
- × Requires dataset collection
- × Longer development cycle
- × Requires model maintenance

Obico logs failed prints, enabling future improvement of our custom YOLO-based error detection model.

SYSTEM OVERVIEW



"When your app is finished, talk to me to implement it in my farm"
Rui Lopez, Invicta3D

"I appreciate the fact that it is a simple solution that uses a linear actuator to ensure reliable part detachment, which I see as a very positive aspect. I believe this project has real value in addressing practical operational challenges through a pragmatic and effective approach."

Henrique Carvalho. Imprima 3D

3D.
PT

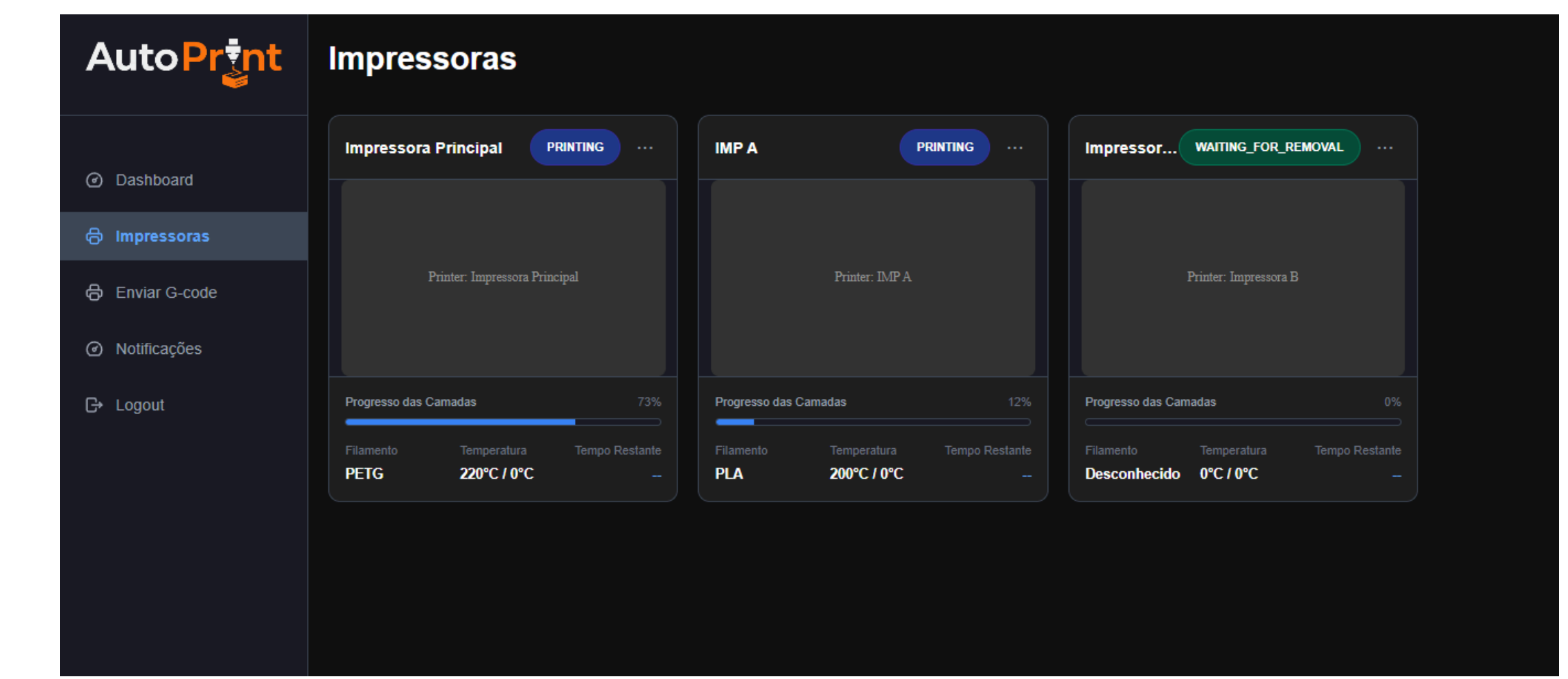
KEY TECHNOLOGIES

Hardware for Auto-Removal

- Raspberry Pi 5
- Linear Actuator
- Webcam Monitoring
- LED Illumination

Software & AI

- Obico Failure Detection
- Web Dashboard
- G-code Automation
- Real-Time Notifications



CURRENT RESULTS

CV Precision
98%

Error Detection Rate
100%

- Actuator coordination for autonomous print removal
- AI model for real-time visual error detection
- Central control services integrated with a remote user dashboard
- Result: Validates a reliable, unsupervised closed-loop operation



TÉCNICO LISBOA

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