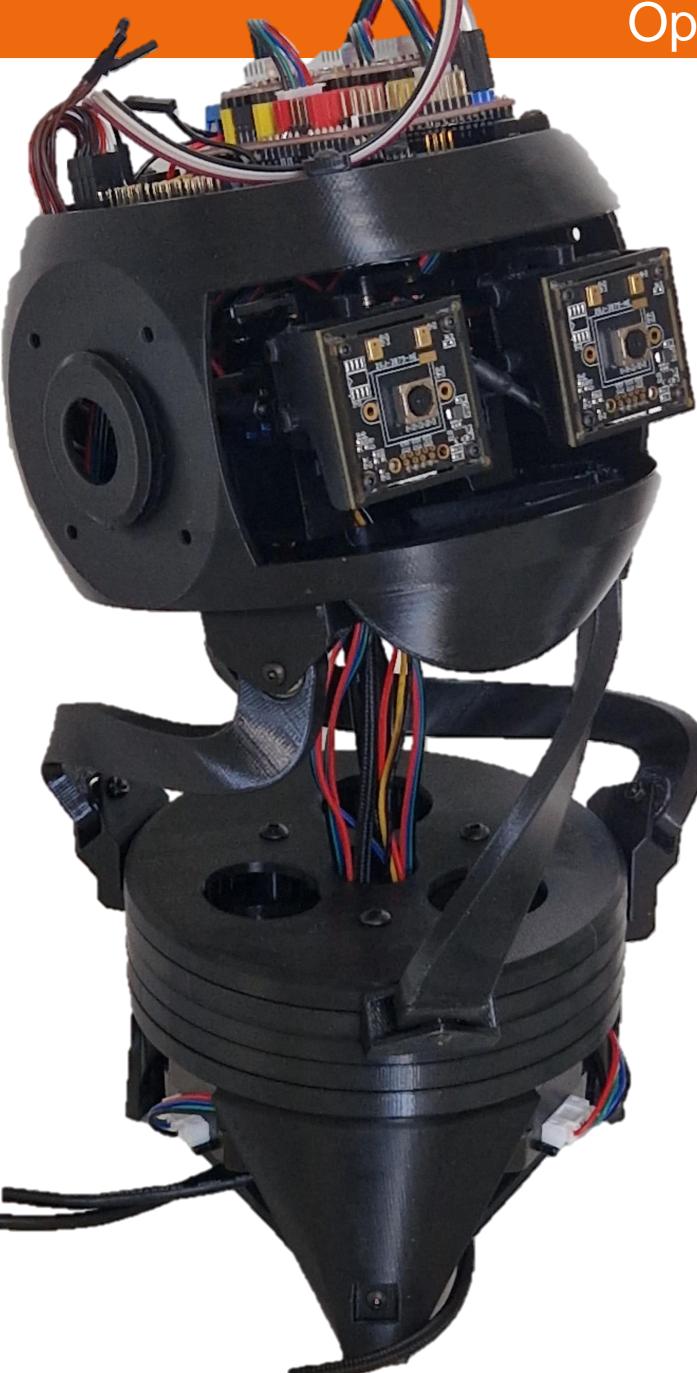
## Design and Development of a Humanoid Robotic Head

Open-source, Accessible, and Affordable!



## **Project Overview**

This is BEATRIX, the first humanoid robot aimed at being fully developed at the University of Bath.

Here are some of it's features:

- 3D Printed
- Accessible components
- Expandible architecture



The Eyes

Mechanism selected and designed to be light, compact and enable 2 degrees of freedom for each eye

- Use of MG90 servo motors
- Cameras provide HD vision for future image processing purposes

## The Neck

 Spherical Parallel Manipulator (SPM) designed for full 3 degrees of freedom

High torque and accurate stepper motors

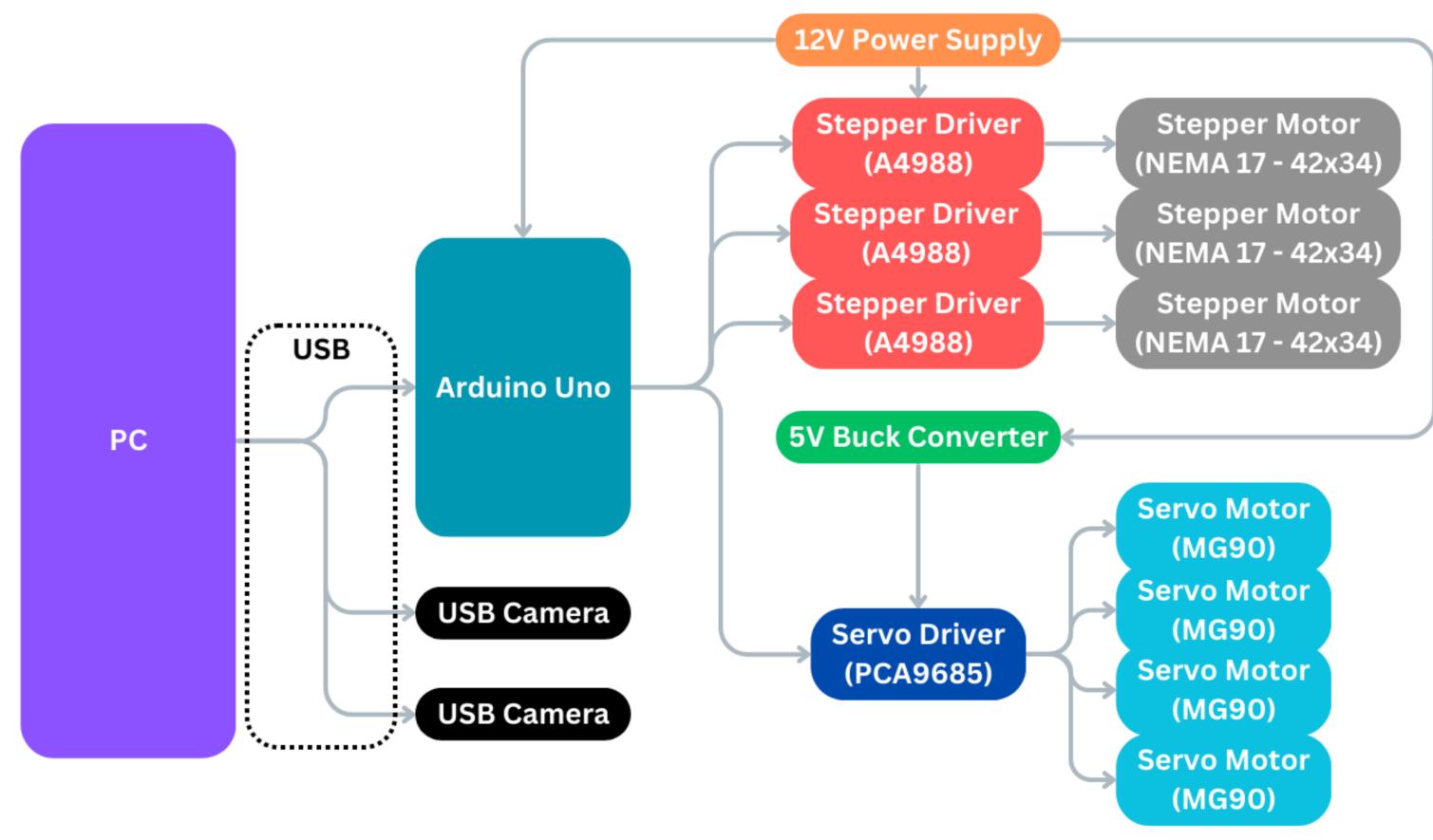
 Custom 3D printed thruster bearings and gears for the desired characteristics



~ £230

## **Electronics Architecture**

- Arduino Uno selected as motor microcontroller to align with project goals
- Customisable control algorithms through PC and Arduino scripts
- 12V power supplied with LM2596 for 5V power to servos



2023

