



Headtracker LED Frame

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Summary

Holds LEDs in a fixed geometry to a baseball cap for capturing head movements via webcam (ex. Opentrack)

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A 3D printable frame to hold three LEDs for use with OpenTrack. Recommended to use wide-angle LEDs (such as [these](#)) as they have a more consistent brightness as head angle changes, leading to easier tracking.

The LED leads are put through the small holes and secured with hot glue. I advise soldering first and gluing after. I used three 3.3V 20mA LEDs in parallel, with a resistor in series with the three LEDs to manage the current from a 5.5V wall wort style power supply. All connections are shrink-wrapped for long-term durability and to eliminate exposed lead surfaces.

The entire assembly is bolted to the rim of a baseball cap with M3 bolts and nuts. A piece of exposed, developed film (what you get on the end of a roll of film) is used as a darkening filter over my webcam to give a good image for point tracking.

Model files



led-frame.stl

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