**What is your research about?**

We’re researching how effective reparative 3D printing is.

**What’s reparative 3D printing?**

Basically, if you’re given some mechanical component with superficial (surface-level) damage. We’d like to repair this damage by filling in the missing parts. For example, an interface for a motor shaft will encounter wear and tear over time. Instead of machining or printing an entirely new part, we can print back parts so that the interface maintains its original shape, which is critical for its operation.

**What do you mean by ‘how effective’?**

In general, effectiveness can mean a lot of things. If we were to look at all the possible ways a print could be effective, the project would take much longer. Instead, we’re mainly concerned with the aspects of structural integrity. This would include structural strength (stress, strain) and failure modes. Since we’re also printing these parts ourselves, we can also collect data on print times, material costs, and repair weight (which is the weight of how much material is used to do a repair).