Contexts

1. *Visual effects*
2. *Animation*
3. *Generative || Procedural art*
4. *Audio-visual performance*
5. *Interactive art*

Techniques

1. *Shaders*
2. *Modelling & animation*
3. *Procedural animation*
4. *Physics*
5. *Machine learning*

Inspiring works

1. *Science Channel ID || Simon Holmedal*
   http://www.simonholmedal.com/#/science-channel-id/

   A 10-second animated clip for the US Science Channel, which animates some odd jellyfish with sound effects. The clip, whilst short, shows a range of materials and translucency- specifically, I'm interested in the way the lighting in this short works. It gives a good sense of fluidity, motion and perspective, and relates primarily to animation and visual effects.

2. *How To Train Your Dragon 3 (The Hidden World) || Dreamworks Animation*
   https://www.youtube.com/watch?v=I9kBul3gnWU

   A sample reel of the third feature film in the HTTYD series- an entirely animated series from Dreamworks, loosely based on the book series by Cressida Crowell. The films feature use of a huge number of models, including numerous unique species of the titular dragons, as well as 10 main/supporting cast characters. This relates strongly into my interests in animation primarily but could be argued to be an audio-visual piece.

3. *Hand Slices || Philip Intile (pi slices)*
   https://pislices.ca/post/620454279641284609/hand-slices-200609

   A short looping gif displaying a textured and animated hand. I really love the way that the lighting works in this piece, since it makes use of a clear/transparent material and curved surfaces. There is some depth to the calculations as refraction and reflection both appear to be accounted for, and subtleties such as the scratches on the palm are not lost. This is an animation piece, but I would argue it has a strong link physics.

4. *Windows media player visualisations || Microsoft*
   https://www.youtube.com/watch?v=4kd6ES-TaoU

Honestly, I'm not sure why but this has been stuck in my head. Audio visualizer, ubiquitous for the windows media player from the early 00s onwards. This was pretty much omnipresent and is a responsible for most of my generation's earliest exposure to audio-visual generation.

5. *Ecosystem || Tom Johnson*
https://ecosystem-game.com/home/

This game uses a virtual "DNA" to create unique swimming creatures based on environmental factors. The creatures evolve and grow in tandem, optimising and changing themselves over time. Physical simulation allows for this process to create actual creatures capable of movement, which develop inside the ecosystem with the goal to survive. This game is an interactive visual art piece featuring animation and models created procedurally by the code.

Initial Ideas

1. Create a short, animated sequence using made models and physical effects (eg rigging a monster to destroy something). This would be a short clip that is brought from concept through to viable, including design periods. It would involve a moving character interacting with an environment or item in some way.
    a. *Context: animation*
    b. *Techniques: modelling, animation, rigging, room for procedural animation*

2. Create a series of special effect clips composited into real footage (eg superpowers, glitch effects, augmentation). This would use a blend of real-life clips with digital effects to create an illusion, like those seen on modern TV.
    a. *Context: visual effects*
    b. *Techniques: shaders, compositing, potentially procedural generation*

3. Create a program designed to procedurally generate dynamic landscapes based on audio input. This would use algorithms and data from other projects to create a more informed algorithm that could pick up on different parts of an audio piece that would be able to inform visual generation of landscape art.
    a. *Context: Audio visual art*
    b. *Techniques: algorithm/back end programming, shaders, procedural generation*

4. Create a series of asset-based animations ready to be used in a video game context (eg checkpoint activation). This would involve the design phase to create 3 assets with animation sequences [activation, use, deactivation, idle] that thematically link and would be ready for use.
    a. *Context: animation for games / video*
    b. *Techniques: shaders, modelling*

5. An algorithm that develops models and vertices based on an artificial evolution, similar to L-Systems in plant simulation. The code would probably need reference models but would be able to develop and grow its own.
    a. *Context: procedural code, animation, interactive art*
    b. *Techniques: Algorithms, glsl, modelling, AI*