Appendix: List of Artworks

This PhD project explored power through the lens of the algorithmic, examining four contemporary examples: Palantir, Uber, Airbnb, and Amazon Alexa. A theoretical strand unraveled these objects, examining how they exert force on subjects and spaces. A practice-based strand created new algorithmic artworks, critiquing logics and speculating on alternatives. The following is a description of each artwork that appears on the darkmttr.xyz website.

(Palantir related)

A machine for maximising casualties

In 2005, three men deployed bombs on the London Underground, killing 56 and wounding hundreds more. This work replays this scenario over and over again in an attempt to maximise the number of casualties—repositioning the bomb and the commuters repeatedly. In doing so, it asserts the ambivalent nature of the algorithmic—techniques which may be used for both creating or constraining terror.

A machine for fooling another machine

Automated license plate reader (ALPR) systems are used by law enforcement agencies to track the movement of individuals and locate them in space. These systems expect a dark series of alphanumeric characters situated on the lighter background of the plate itself. By conforming to this anticipated schema, a machine might trigger the capture and parsing of junk data. This scripted paint system invites this kind of automated (mis)reading, and could be applied to architecture, vehicles or other objects.

A machine for dreaming up new anxieties

A machine is trained for days on thousands of suspicious incident reports from recent wars, a subset of the databases known as the Iraq and Afghanistan War Diaries. This character-based neural network gradually learns to write similar reports, letter by letter. These reports are illustrated manually using found footage from YouTube which corresponds roughly to the described situations. In extrapolating the algorithmic anticipation of future risk, strange new scenes and situations emerge.

A machine for dreaming up new terrors

A machine is trained for days on the RAND database of World Terrorism Incidents. This character-based neural network gradually learns to write new incidents, letter by letter. These incidents are altered from past tense to future tense and illustrated manually using found imagery which corresponds roughly to the described situations. In extrapolating the algorithmic anticipation of future risk, strange new scenes and situations emerge.

(Uber related)

A machine for trapping objects and triggering errors

Null Island is a 1×1 metre zone located at the GPS coordinates of 0,0 off the coast of Guinea. When GPS systems fail and return a 'null' result (latitude and longitude of zero), objects are temporarily sent to these coordinates. The space thus serves the practical function of allowing systems to diagnose and trap errors. At the same time, it provides a small yet tangible instance of the inconsistencies at the heart of our technological systems. Null Island is both fictional and real, and the work draws on this ambiguity to speculate about the objects housed on the island and the errors which transmitted them there. The work uses a game engine to allow the viewer to explore the space and its related sound elements interactively.

A machine to iterate an accident

In March of 2018, a self-driving car piloted by Uber was involved in the first fatal car crash. While tragic, the aftermath of the incident saw commentators incessantly replaying the scenario, attempting to rehabilitate the broader technology by identifying and isolating the error. Loosely based on this incident, this work uses a physics engine to emulate a collision between a self-driving car and a pedestrian. After every simulation, the angle of the body and speed of approach is slightly adjusted, resulting in a new trajectory, a new set of injuries, a new arrangement of sprawled limbs. The work explores how technical logics of repetition and simulation shape the way in which we approach and evaluate life itself.

A machine that will never complete

A machine is given the task to solve the well-known Traveling Salesman problem with a high number of cities to visit. At 1000 calculations per second, this 'brute force' algorithm will take approximately 331 years to resolve, a duration which its supporting hardware will not reach. An attempt to frustrate one of the core desires at the heart of computation, the desire for an effective procedure that resolves rapidly to a solution.

(Airbnb related)

A machine to reduce risk

Aesthetically, this work emulates the Bloomberg Terminal, the dense surfaces of dashboards used by stockbrokers in the contemporary financial trading industry. But the real-time logs, charts, and pings here are based on 18th century data, drawing upon the London Assurance company and the sector of early maritime insurance more broadly. By analysing the Atlantic as a space of exposure and writing contingency into insurance policies, maritime insurance made risk calculable and manageable, an 'innovation' key to making slave shipping viable. In visualising the financialisation of bodies through the dashboard aesthetics of contemporary finance, the work seeks to demonstrate their historical continuity. If techniques of classification and capitalisation have become more sophisticated, their logics can nevertheless be recognised in the past.

A machine for dying in

A leaking water heater placed on a fully enclosed balcony in Taipei, Taiwan. An enclosed space that slowly fills with carbon monoxide. A sleeping body on the balcony that gradually replaces its oxygen with the heavier monoxide, eventually causing suffocation and death.

A machine for sorting skin

A bubble sort is a sorting algorithm that repeatedly steps through the list to be sorted, compares each pair of adjacent items and swaps them if they are in the wrong order. In this way smaller or larger elements "bubble" to the top of the list. The sort is applied to bodily images, reconfiguring them from lightest to darkest skin tones with an algorithmic logic carried out in a browser window.

A machine for sonifying toxic space

Santa Clara has the highest concentration in the country of so-called Superfund Sites, locations deemed highly polluted by the EPA which require decades of cleanup. These sites are mapped along with other spaces where hazardous chemicals have been released, forming a topography of toxicity. The artwork imagines a smartphone-based soundtrack dynamically generated by moving through this geography.

(Alexa related)

A machine for witnessing and recounting a crime

Recently police in Arkansas issued a warrant for Amazon Alexa data in connection with a suspected homicide. Though the request was denied, this artwork acts as if it was accepted, using 'smart home' notifications to extrapolate from the evening's events: a few friends, a few drinks, a floating body. In doing so, it explores the data these objects might possess and anticipates some of the ways it might be used and abused.

A machine for capturing domestic data

Documents the contents of the filter after each vacuuming session over several months. Mixtures of human and dog hair, twigs and food scraps, lint and leaves reveal patterns of activity within a household. In doing so, the project explores the congealing of life within a shared space, as well as the extent to which this domicile can be mined for information by a material practice.