

# Bad Mother / Good Mother

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**Abstract.** *Bad Mother / Good Mother* is an audiovisual performance involving a projection, a modified electronic breast pump as a sound generator, and a sound-reactive LED pumping costume. The project has four songs that critically explore technologies directed specifically at women like breast pumps and fertility extending treatments such as egg-freezing (social freezing). Depending on the song, the breast pump is either a solo instrument or part of an arrangement. The idea is to use workplace lactation as a departure point to uncover a web of societal politics and pre-conceived perceptions (pun intended) of ideal and non-ideal motherhood.

**Keywords:** Technofeminism, audiovisual performance, breast pump, motherhood, politics, physical computing.

## Introduction

*Bad Mother / Good Mother* (Ruest, 2018) is an audiovisual performance involving a projection, a modified electronic breast pump as a sound generator, and a sound-reactive LED pumping costume. The project has four songs that critically explore technologies directed specifically at women like breast pumps and fertility extending treatments such as egg-freezing (social freezing). Depending on the song, the breast pump is either a solo instrument or part of an arrangement. The idea is to use workplace lactation as a departure point to uncover a web of societal politics and pre-conceived perceptions (pun intended) of ideal and non-ideal motherhood.



Figure 1. Three Stills from a performance of Good Mother / Bad Mother at xCoAx 2019 in Milano, Italy.

## The Songs

The first song uses the breast pump sound as a solo instrument. Thematically, the song is about different aspects of pumping breastmilk at work. It has two basic sounds: The sound of the milk letdown which is slower and the sound of the pumping which is faster. In the performance, I am switching between the two modes, playing them at different intensities. The visuals are still images of different breast pumping situations and the stresses related to extracting milk in a work environment.

The second song is about maternity leave. In the US, parental leave is not mandated by law (Department of Labor). The visuals show (US) politicians displaying fake reverence towards women. The breast pump is playing in the background, defamiliarized by vocoding.

The third song is about freezing eggs to delay motherhood. Egg freezing is an elective medical technology that is sold to women as empowering because it allows women to delay motherhood by freezing their eggs (Rosenblum, 2014). Because the motivations are social and not primarily medical, the procedure is also called “social freezing”. It is big

business especially since large tech companies like Facebook have announced that they will pay for employees' eggs to be frozen. Facebook was criticized for using this "benefit" to pressure women to delay motherhood (Alter, 2015). This song uses the breast pump as the heavily vocoded lead vocals in a cover of Daft Punk's "Get Lucky". I call this song "Daft Pump".

The fourth song is improvisation, using filters to distort different aspects of the sound signal. The visuals are of a woman pumping. Individual movements are repeated rhythmically along with the sound. It signifies the repetitiveness of the pumping routine

## The Costume

The costume is an exaggerated pumping top. Around the cut outs where the breast pump shields attach to the breast, it has seven rows of LEDs pointing outward like a star. The LEDs are attached to a microcontroller board. Each arm represents a frequency band. The LEDs therefore pulse along with the sound. However, the bands are lit individually depending on the energy content in this frequency band. It is designed similar to a rock star's costume. It ironically glamorizes the profoundly unglamorous act of pumping breastmilk.



Figure 2 Three Stills from a performance of Good Mother / Bad Mother at NIME 2019 at Salão de Atos in Porto Alegre, Brazil

## Reactions

I have performed *Good Mother / Bad Mother* in the United States, in Italy (twice), as well as in Brazil. Overall, reactions to the performance vary between women and men. Women in the audience have a clear idea what the performance is about while men on average have not been confronted with the topics discussed in the performance. Men's reactions vary depending on their sensitivity to the theme. Some ask questions along the lines of "what is the problem?". Others want to learn more or tell me that someone in their life is going through something similar.

Women's reactions are divided between those who are experiencing the stressors described in the performance and those who have experienced them in the past. For women who are struggling with fertility combined with career pressures the performance is (understandably) difficult to watch. Positive reactions typically come from women who have experienced stressors related to motherhood and gender inequities but have in the process found some distance to the specific issues described in the performance.

## Technical Discussion

The project is a patchwork of different software and platforms: Most of the software runs on a Macbook. A fairly simple *Max (Cycling74)* patch controls the visuals. The sound of the breast pump is recorded through two microphones and

amplified in real-time via a thunderbolt audio interface. The sound is then processed via the MacBook. The audio part of the performance is mostly improvised. It consists of several *Ableton Live* (Ableton) projects that have different levels of pre-determined arrangements. The second song and the last song (of four songs) make use of the knobs on a midi keyboard to control filter parameters. I am also using the breast pump itself as an interface, playing it at different speeds to create different sounds to accompany the visuals.

The LED costume runs on a regular *Arduino* microcontroller board (Arduino) with a Sparkfun *Spectrum Shield* (Sparkfun). The LEDs are Adafruit *NeoPixels* that may draw 60 milliamps per individual *NeoPixel* at maximum brightness (Burgess). There are 140 *Neopixels* on the costume, however, not all of them are turned on at the same time, so a battery that can source two Ampere-hours is sufficient. Inside the breast pump enclosure there is another *Arduino*. It has a small microphone and activates a strand of *NeoPixels* that surrounds the breast pump enclosure and is sound reactive via a small electret microphone.

The visuals are mostly found (YouTube) footage and images that are remixed to form a narrative. They are images from advertising, from magazine articles, news coverage of press conferences. Some of the footage also comes from breast pump demonstration videos.

## Conclusion

I created this performance because I found audiovisual performance programs at festivals and conferences to be dominated by male performers and technologists. These are the people in the field who decide what is interesting and what is not. It was (and still is) my impression that this kind of event is generally in need of feminist intervention. My project contributes insofar as it demonstrates a use of the breast pump as an interface for musical expression and performance. It also contributes to the diversity of possible (political) topics and interfaces to be explored through audiovisual performance. It has been my impression that *Bad Mother / Good Mother* is not a performance that seamlessly blends into a performance program. And while that may be uncomfortable to many in the audience, it does expand the idea of what performances with electric and electronic interfaces can and will do.

## Link to Work

Website with videos, etc.: <http://anninaruest.com/badmother.html>

## Tech Rider

This performance requires a 70x50 cm space on a table that is facing the audience (because of the costume). It also requires a PA system (via a 1/8" audio jack plugged into my computer) and a projector (HDMI or VGA). See table layout below. The Focusrite device is used to amplify the breast pump sound and is connected to the laptop via thunderbolt where it is processed. The PA therefore plugs into the laptop. I have performed this audiovisual performance in various venues and after setup (ca. 15 minutes), it takes about 10 minutes to sound check (depending on venue).

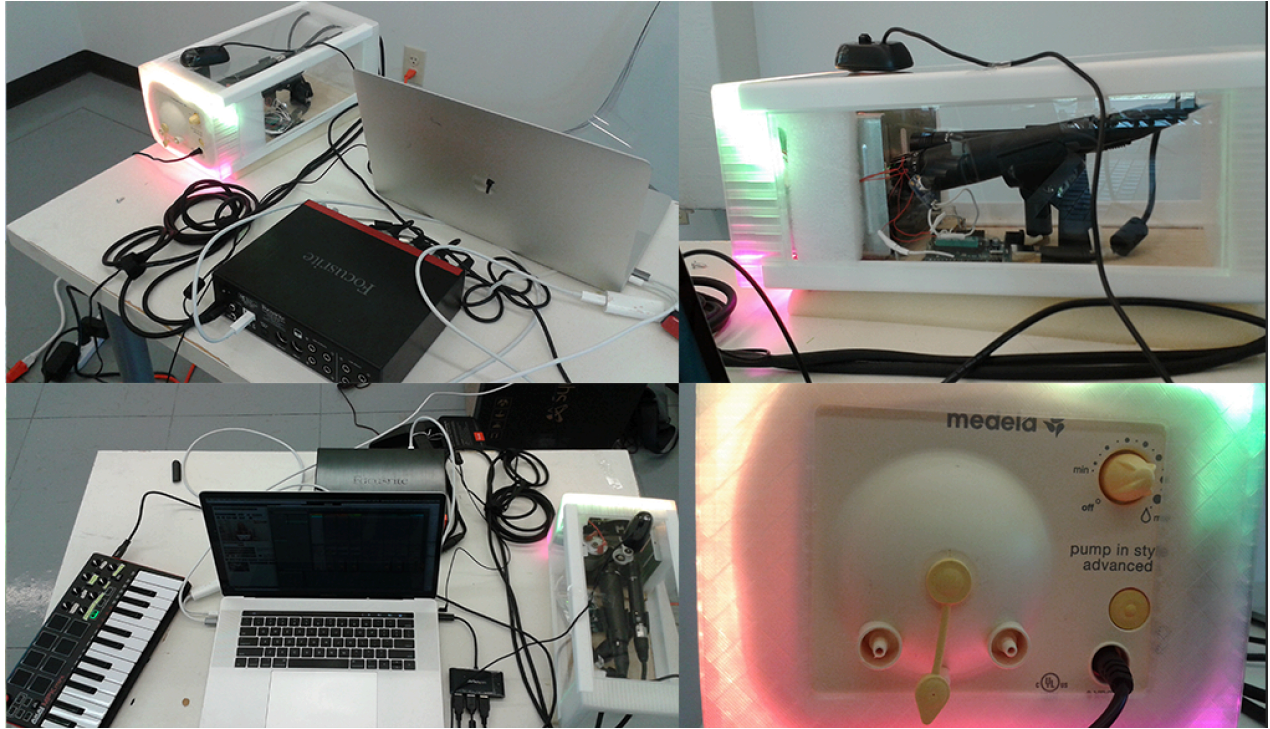


Figure 3. Table layout for performance (part of tech rider).

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