



NEO-EMBROIDERY

How has new media influenced the design of traditional Belarusian embroidery?



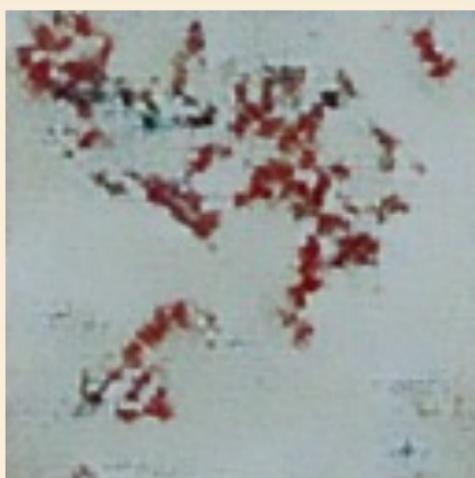
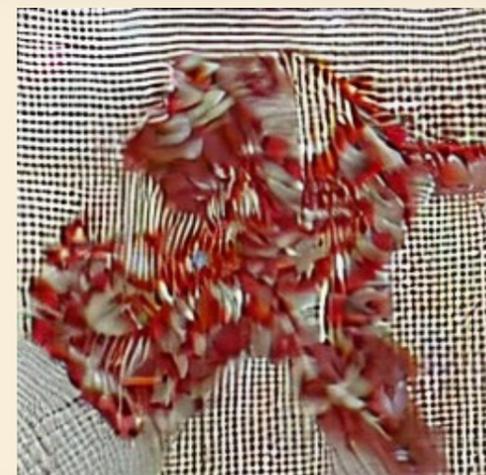
This project compares AI generated ornaments from 2 data sets - one composed of 'authentic' ornaments and one from online content. It investigates how Belarusian ornaments today might differ from the 'original' ones through these 'mutated' AI designs.

- ❖ Belarusian embroidery = 'national code'.
- ❖ Re-appropriated by anti-regime Belarusians, with other white and red medieval symbols, after the 2020 anti-dictatorial protests.
- ❖ Historically, the design's simplified forms have been linked with technological advancements.



- ❖ I created a dataset of 103 references of motifs from different books (png. Format screenshots).
- ❖ This dataset was placed into a code for an unconditional AI image generator sourced from Huggingface.
- ❖ The initial parameters (left), and the most significant ones for this project: 100 epochs, 64 x 64p resolution, 16 batch training.

- ❖ Enhancing the quality of the image using the Stable Diffusion Upscaler (right).
- ❖ The two prompts used for the two were:
→ Embroidery
→ Artwork
- ❖ Even upscaled, the results still did not look as obviously embroidery-like, so I edited the code again, switching the number of epochs to 200 and increasing the size up to 128p (below).
- ❖ To compare results with further model generations, I created 25 of this batch.



- ❖ Despite increasing the epochs and size, the images continued looking distorted.
- ❖ I updated the generation again, increasing the epoch number to 500 (below).
- ❖ These results looked sharper and distinctly embroidery-like. No upscaler was used.
- ❖ Because my dataset was inconsistently cropped, some data had text that this last model picked up.
- ❖ Further improvements: consistent input image formatting and quality.

Discussion

- ❖ How can AI models like this influence other traditional crafts?
- ❖ How can this model be applied to non-graphic crafts (instruments, ceramics, dance)

References

- ❖ https://github.com/huggingface/diffusers/tree/main/examples/unconditional_image_generation
- ❖ <https://huggingface.co/stabilityai/stable-diffusion-x4-upscaler>
- ❖ https://knihi.com/Michail_Kacar/Bielaruski_arnamient_Tkactva_Vysyuka.html
- ❖ <https://www.perunica.ru/tradicii/4000-lobachevskaya-va-svyaz-vremyon-belorusskij.html>

