California State University San Bernardino
School of Computer Science & Engineering
Masters Project Defense

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Location
https://csusb.zoom.us/j/84375350637

Topic
Deep Learning Edge Detection in Image Inpainting

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Abstract
This project conducted image inpainting using deep learning. The EdgeConnect image inpaint approach was implemented and improved. Deep-learning based EdgeConnect is an innovative edge-first and color-next image inpainting approach. It uses an edge detector to generate an edge map of an image with missing regions, then completes the missing edges by an edge model, finally recolors the completed edge map by an inpaint model. Compared with conventional image inpainting methods, the result of this approach has a significant improvement in the smoothness of the image. This project modified EdgeConnect to become a completely deep learning-based method. The edge detection generator was replaced with the deep learning algorithm----Holistically-Nested Edge Detection (HED). Compared to the original EdgeConnect, the experimental results showed the modified EdgeConnect has better accuracy measured with various image inpainting metrics.