Thesis Portfolio

Product Discovery in Artisanal Retail
(Technical Report)

Analysis of Algorithmic Bias in the Service Platform
(STS Research Paper)

An Undergraduate Thesis

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Table of Contents

Sociotechnical Synthesis

As shopping shifts from brick and mortar stores to e-commerce platforms, the market trends and shopping behaviors in retail continue to evolve. Many individuals look for new outlets, in search of unique, and exclusive items. Others look to find products made from sustainable and eco-friendly materials. As preferences change, and the retail market attempts to meet this demand, a lot of pressure falls on the creator community of artisans who generate these products, and the small, local retailers that supply them. Artisans do not have platforms to promote, sell and market their products, while small retailers struggle to source these products to meet their consumer demands. In order to bridge this gap and take the artisanal product market to the next level, the computer science capstone research is centered around designing and building a tool to simplify product discovery and streamline the artisan to market transaction. Using user surveying, interviews, and business model definition, the proposal involves product design, through simplified workflow diagrams, technology features and possible mechanisms for technological development. It also expands on future development plans with use of AI and vision learning tools to curate products, as we define the proof of concept for this tech startup and begin development soon after.

In relation to the capstone study, the STS research will be expanding on future research plans in analyzing algorithmic bias of AI in the service platform. Using the capstone investigation as the case study, the STS research involves analyzing where and how designer bias can be accumulated when designing an artificial intelligence algorithm for a product, and what mitigation techniques could be useful. The experiment will involve literature reviews, designer interviews and survey questionnaire analysis to understand where and what kinds of biases can be formed in product curation.