From Students…
…to Professionals

MICHIGAN STATE UNIVERSITY

Beta Presentation
FIBRE: Fabric Identification Based Recommendation Engine
The Capstone Experience
Team Herman Miller

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Project Overview

• FIBRE is an artificial intelligence fabric engine, composed of a classification system and recommendation engine.

• The classification component uses deep learning and computer vision models to objectively classify fabrics.

• The recommendation engine correlates any fabric a customer may submit with Herman Miller fabrics.
System Architecture
Web-App Single Classification
Web-App Multiple Classifications
Web-App Recommendation

Color: green
Pattern: solid texture

Fabric Recommendations

- Manner - Parakeet
- Medium - Plietochein
- Resonance - Green Apple
- Lariat - D38

- Murmur Blome
- Highfield by Kuddrat
- Tinge Lavish
- Wool Strise Fern
FIBRE Mobile App

Statistics

Color Distribution

Patterns Submitted

Number of Fabrics

25

Classification

Color: blue, gray

Pattern: solid texture

VIEW RECOMMENDATIONS

Home

Stats

The Capstone Experience

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Autoencoder Based Recommendation

![Diagram of an autoencoder network showing input, encoding, code, and output.]
Total Fabrics: 5,306
- Solid Texture: 3796
- Geometric: 476
- Stripe: 430
- Abstract: 422
- Botanical: 138
- Woven: 26
- Tufted: 10
- Felt: 8
What’s left to do?

- Finish migrating Heroku app to AWS
- Add tokens for FIBRE API
- Improve recommendation engine algorithm
- Finalize iOS deployment (stretch)
Questions?