# Get Out of Your Bubble!

D. Ryan Miller, Ph.D. August 2, 2019



## Filter Bubbles, Echo Chambers, and Feedback Loops:

- Limit exposure to diverse and contrary ideas
- 2. Limit product exposure

Bubbles and Chambers and Loops, Oh My (Project Background)

### **MovieLens Dataset:**

1. Movies: 53,000+

2. Users: 283,000+

3. Ratings: 27,750,000+



#### **Performance Metrics:**

- ALS: 0.88 RMSE
- Gradient Boosting Machine: 95% accuracy
- Augmented Recommendation Engine: Performs well on 3 of 4 metrics



## **Recommendation System Demonstration**





### **Future Steps:**

- 1. Improve ALS model
- 2. Improve Classifier Performance
- 3. Improve Augmented Recommendations
- 4. Deploy as Web App

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