

Find Your Best Customers

Conjugate Bayesians

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Customer Segmentation

- ▶ Bayesian Marketing Mixture Model
- ▶ Purchasing Attributes:
 - ▶ Frequency (# Transactions Made)
 - ▶ Recency (When Last Transaction Occurred)
 - ▶ Time Period (First Purchase Time - Last Registered Date)
- ▶ “Buy ‘Til You Die”:
 - ▶ Transaction Rate
 - ▶ Dropout Rate
 - ▶ Heterogeneity across Customers

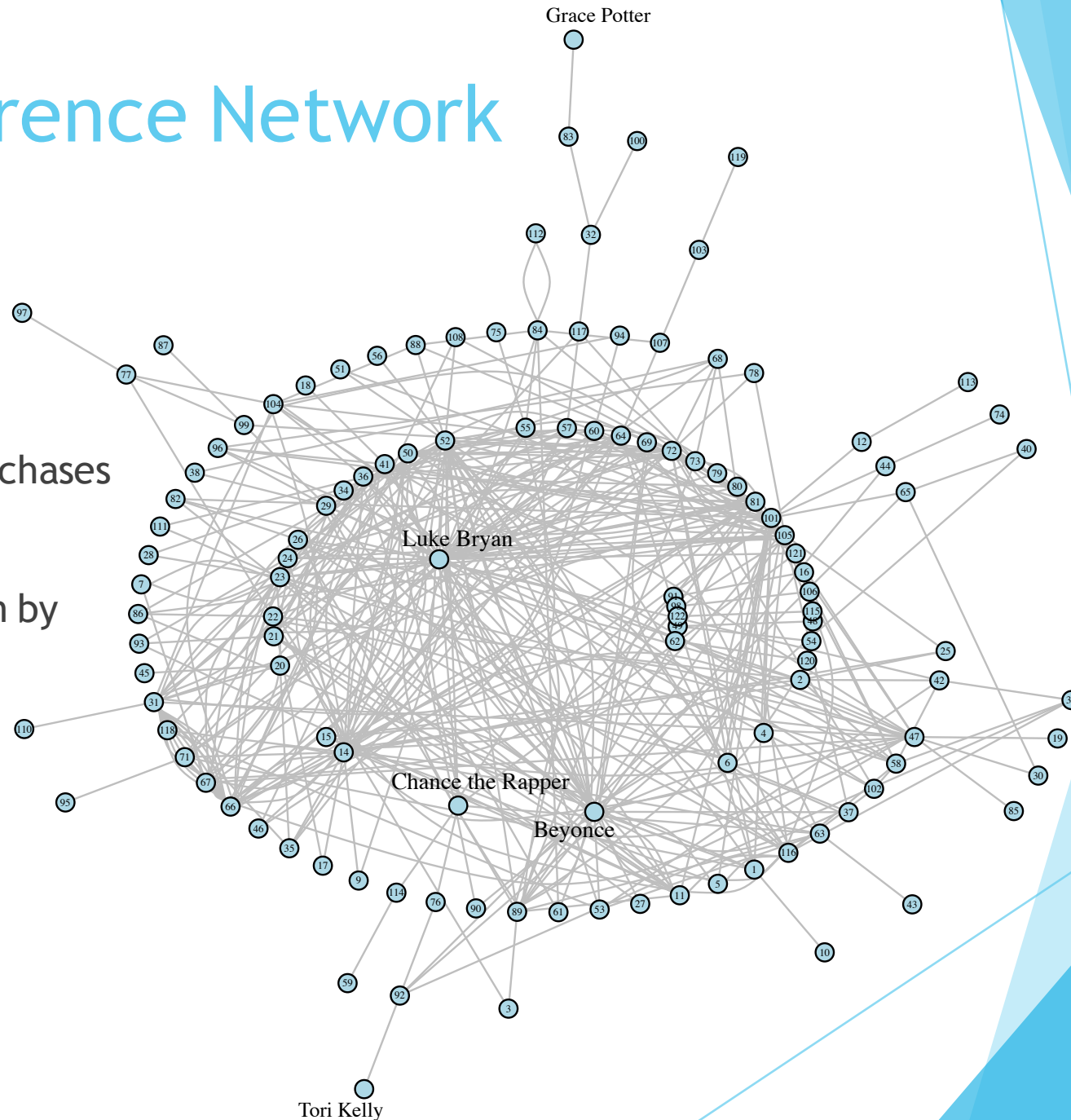
6 Month Prediction Examples

High Value		
Customer ID	E[Transactions]	E[Tickets]
A	31.99108	117.9931
B	13.19827	153.4299
C	50.14987	259.1077

Low Value		
Customer ID	E[Transactions]	E[Tickets]
X	0.01918124	0.05754372
Y	0.03193455	0.0638691
Z	0.03654285	0.0730857

Customer Preference Network

- ▶ Atlanta Concert Ticket Purchases
- ▶ Node: Primary Act
- ▶ Edge: Purchase Connection by Individual Customer



Recommendation Engine

- ▶ Customer A: AC/DC, Jason Aldean, Beyonce, Luke Bryan, Metallica, Phish, Pitbull, Shawn Mendes, Twenty One Pilots
- ▶ Customer B: Bryson Tiller, Darius Rucker, Janet Jackson, Tove Lo
- ▶ Customer C: Bryan Adams, Kathleen Madigan, Steely Dan, Smashing Pumpkins
- ▶ Focus on High Value Cohort to generate largest profit margin

Artist Recommendations		
Customer A	Customer B	Customer C
Coldplay	Beyonce	Def Leppard
Sting	Zac Brown Band	Beyonce
Jimmy Buffett	Luke Bryan	Heart