

SOCIAL COMPUTING: BRIDGING THE GAP BETWEEN TECHNOLOGY AND HUMAN INTERACTION

DR. NICOLÒ PAGAN, POST-DOCTORAL
RESEARCHER, UNIVERSITY OF ZURICH

DSI PROFESSOR PRESENTATIONS: ZÜRICH, FEBRUARY 28, 2023

INDEX



1. CONTENT CREATORS
IN SOCIAL MEDIA
PLATFORMS



3. POLARISATION
AND HATE SPEECH



2. FEEDBACK LOOPS IN
ML-BASED AUTOMATED
DECISION-MAKING
SYSTEMS



4. BIAS IN
SEARCH ENGINES

1. CONTENT CREATORS IN SOCIAL MEDIA PLATFORMS

MOTIVATION:

- ▶ Social media platforms are increasingly being leveraged as a means of making a living.
- ▶ The Creator Economy has seen tremendous growth over the past decade:
 - more than **50 MILLION CONTENT CREATORS** and a market worth over **\$104 BILLION**.
- ▶ However, social media platforms do not always provide fair opportunities and compensation for these creators.

1. CONTENT CREATORS IN SOCIAL MEDIA PLATFORMS

MOTIVATION:

- ▶ Social media platforms are increasingly being leveraged as a means of making a living.
- ▶ The Creator Economy has seen tremendous growth over the past decade:
 - more than **50 MILLION CONTENT CREATORS** and a market worth over **\$104 BILLION**.
- ▶ However, social media platforms do not always provide fair opportunities and compensation for these creators.

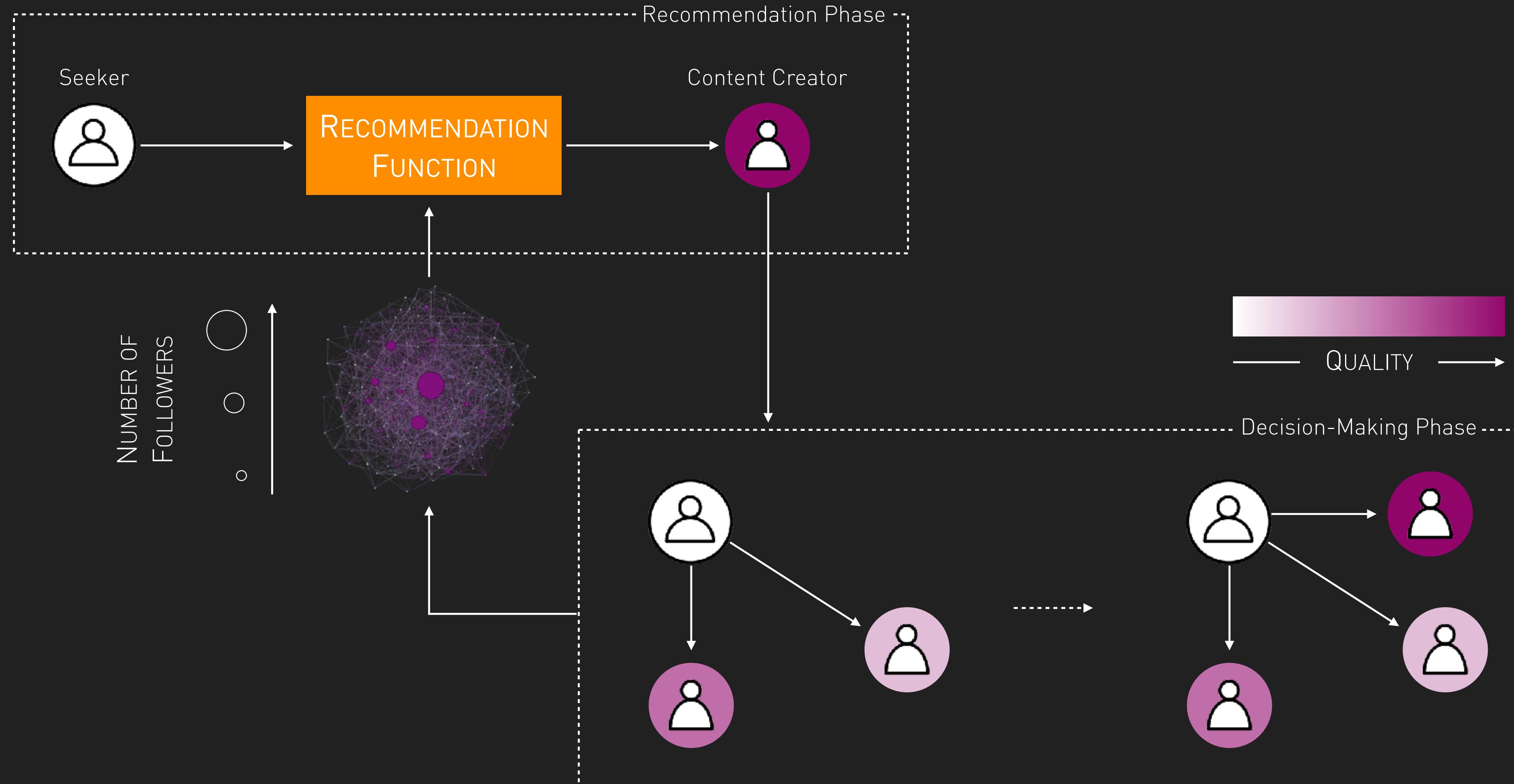
RESEARCH QUESTIONS:

- ▶ What is the impact of the Recommender Systems on Content Creators **FAIRNESS**?
- ▶ And what is the role of users' **HOMOPHILY**?

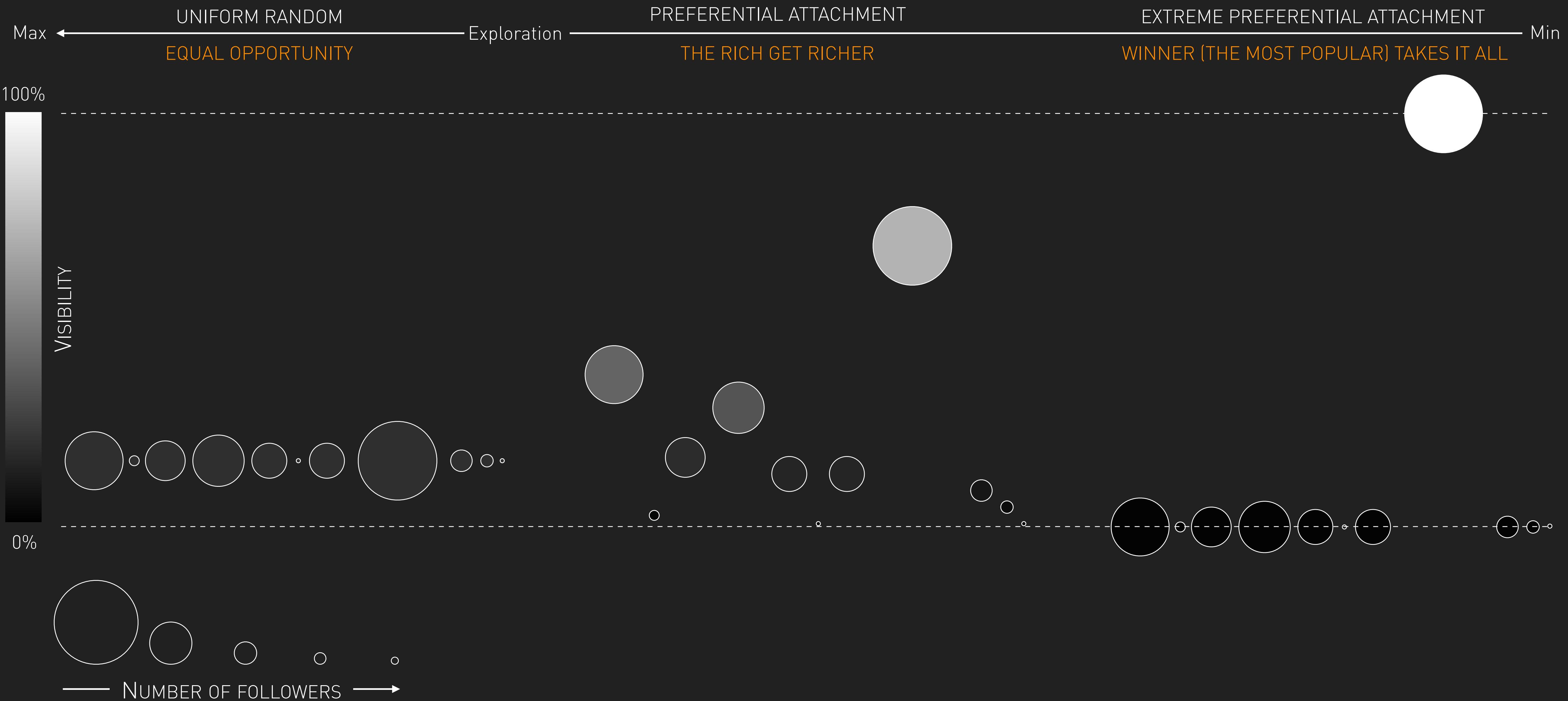
METHODS:

- ▶ Network Theory, Agent-Based Modelling

STEP 1: THE MERITOCRATIC NETWORK FORMATION MODEL

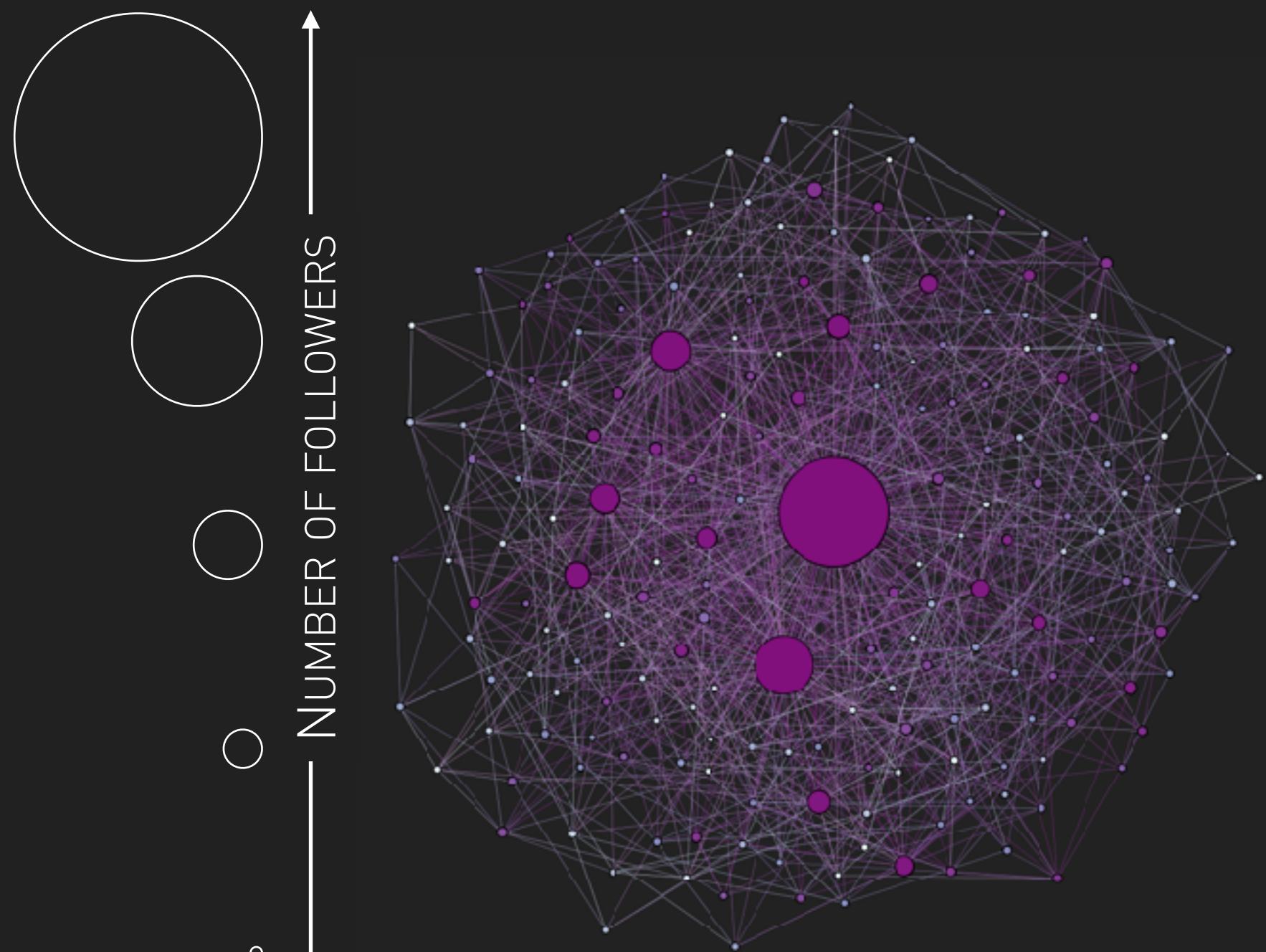


STEP 2: RECOMMENDATION FUNCTIONS



Max ← Recommendation System's EXPLORATION → Min

UNIFORM RANDOM



PREFERENTIAL ATTACHMENT

(This section is currently empty)

EXTREME PREFERENTIAL ATTACHMENT



Max ← Recommendation System's EXPLORATION → Min

UNIFORM RANDOM

PREFERENTIAL ATTACHMENT

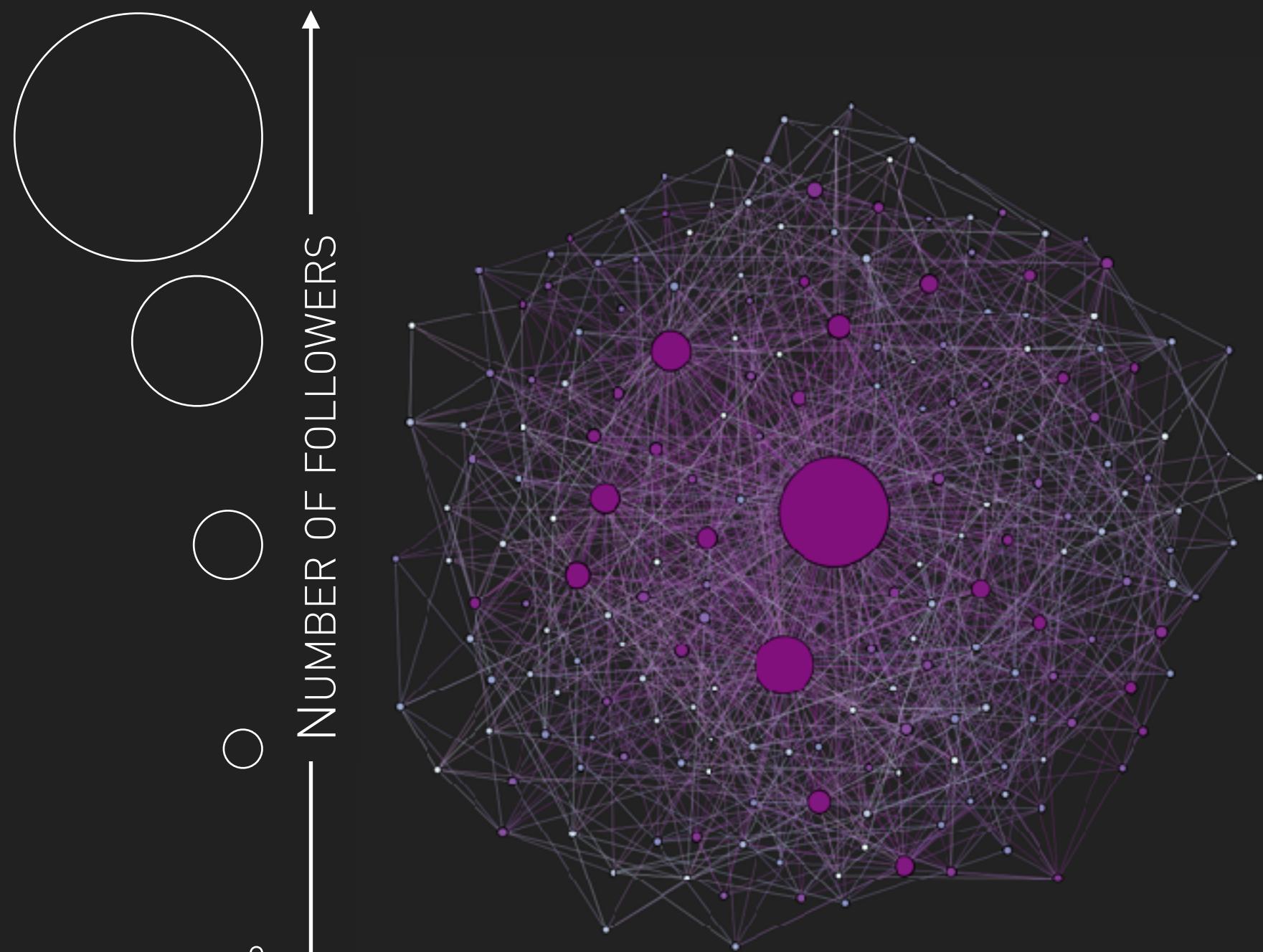
EXTREME PREFERENTIAL ATTACHMENT



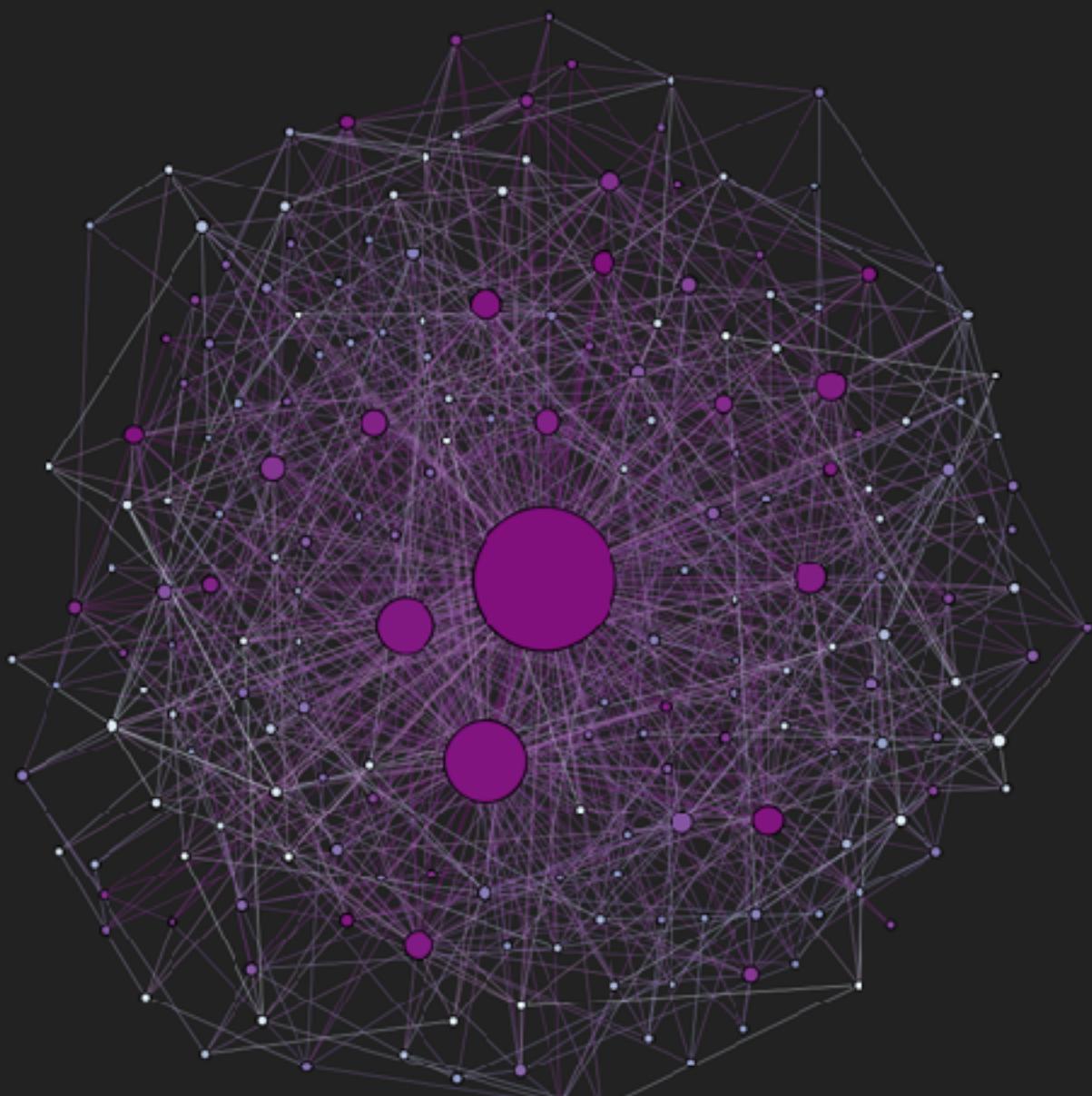
NUMBER OF FOLLOWERS
CORRELATES WITH
UGC-QUALITY

Max ← Recommendation System's EXPLORATION → Min

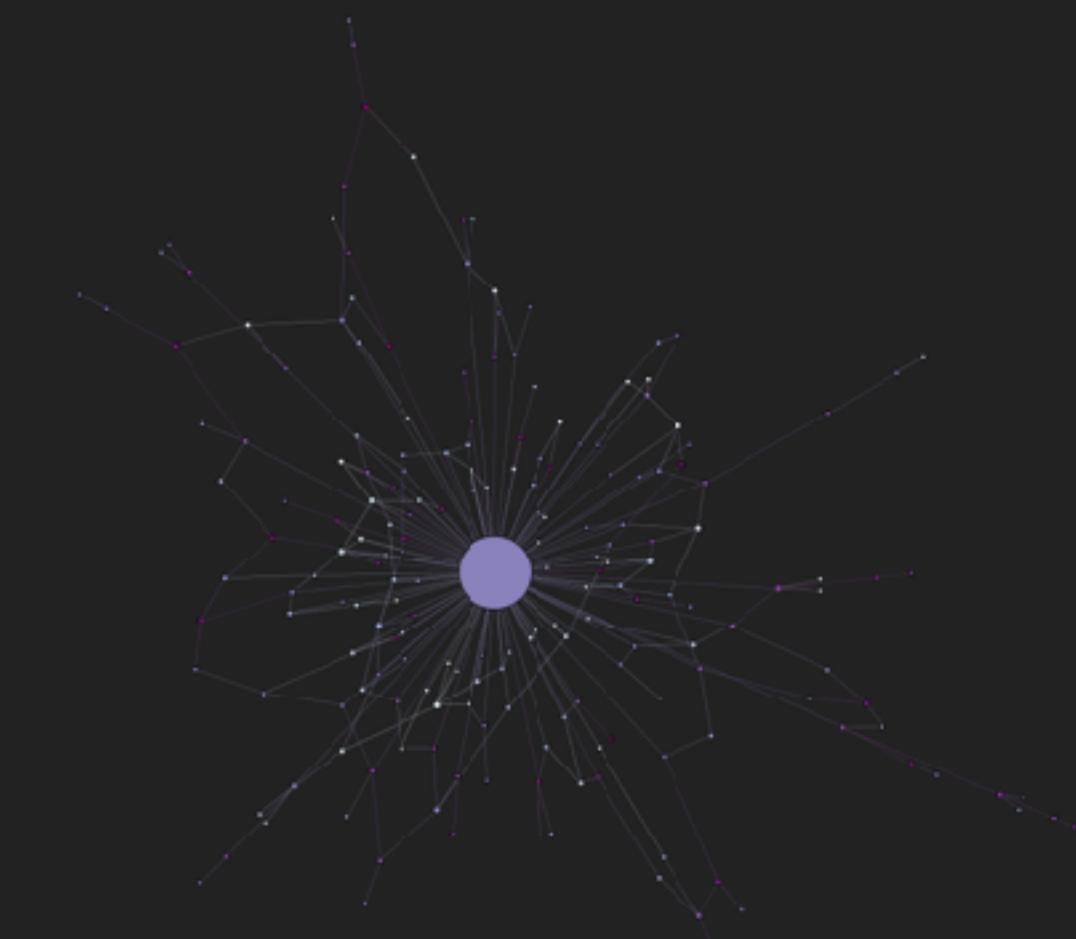
UNIFORM RANDOM



PREFERENTIAL ATTACHMENT

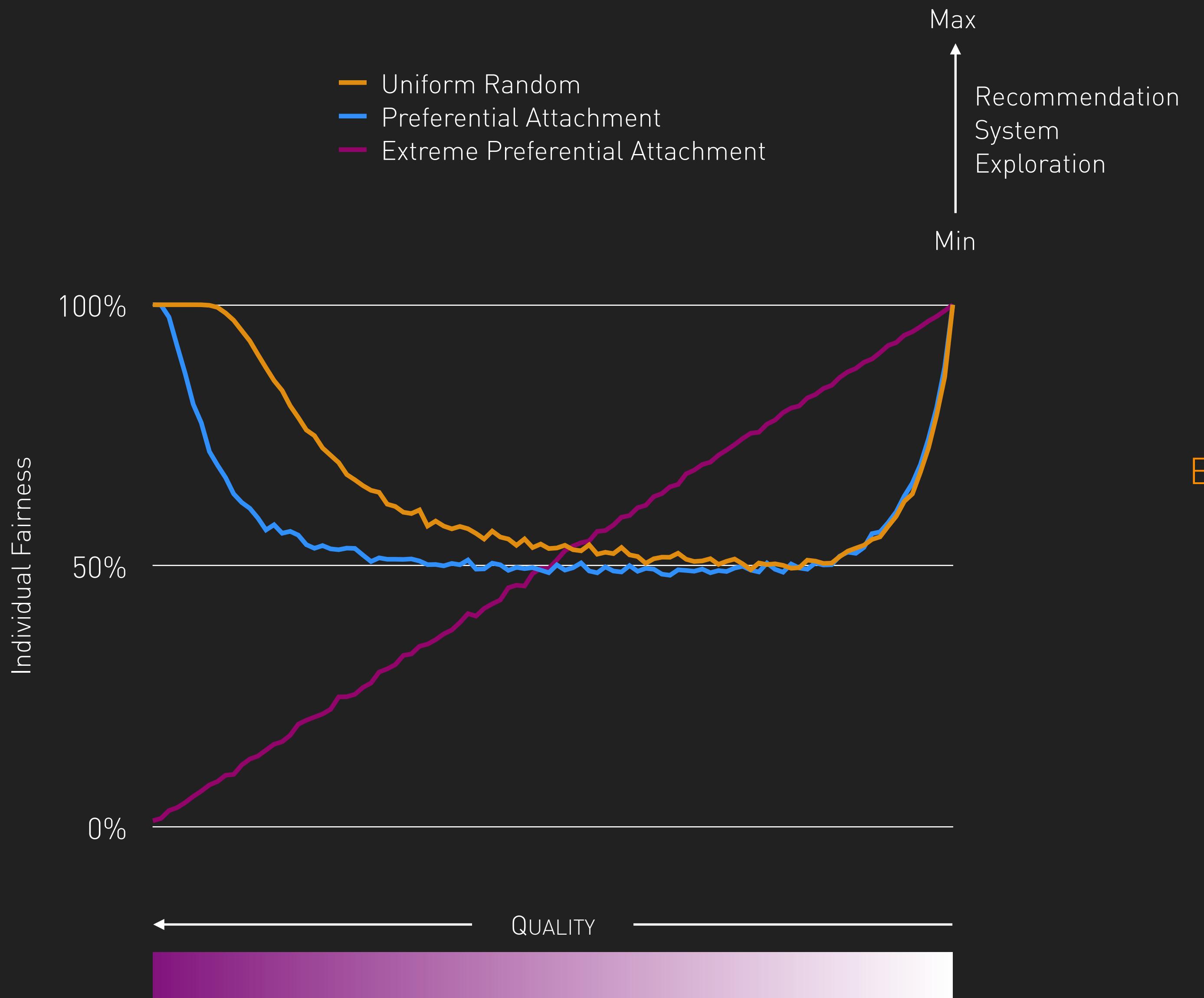


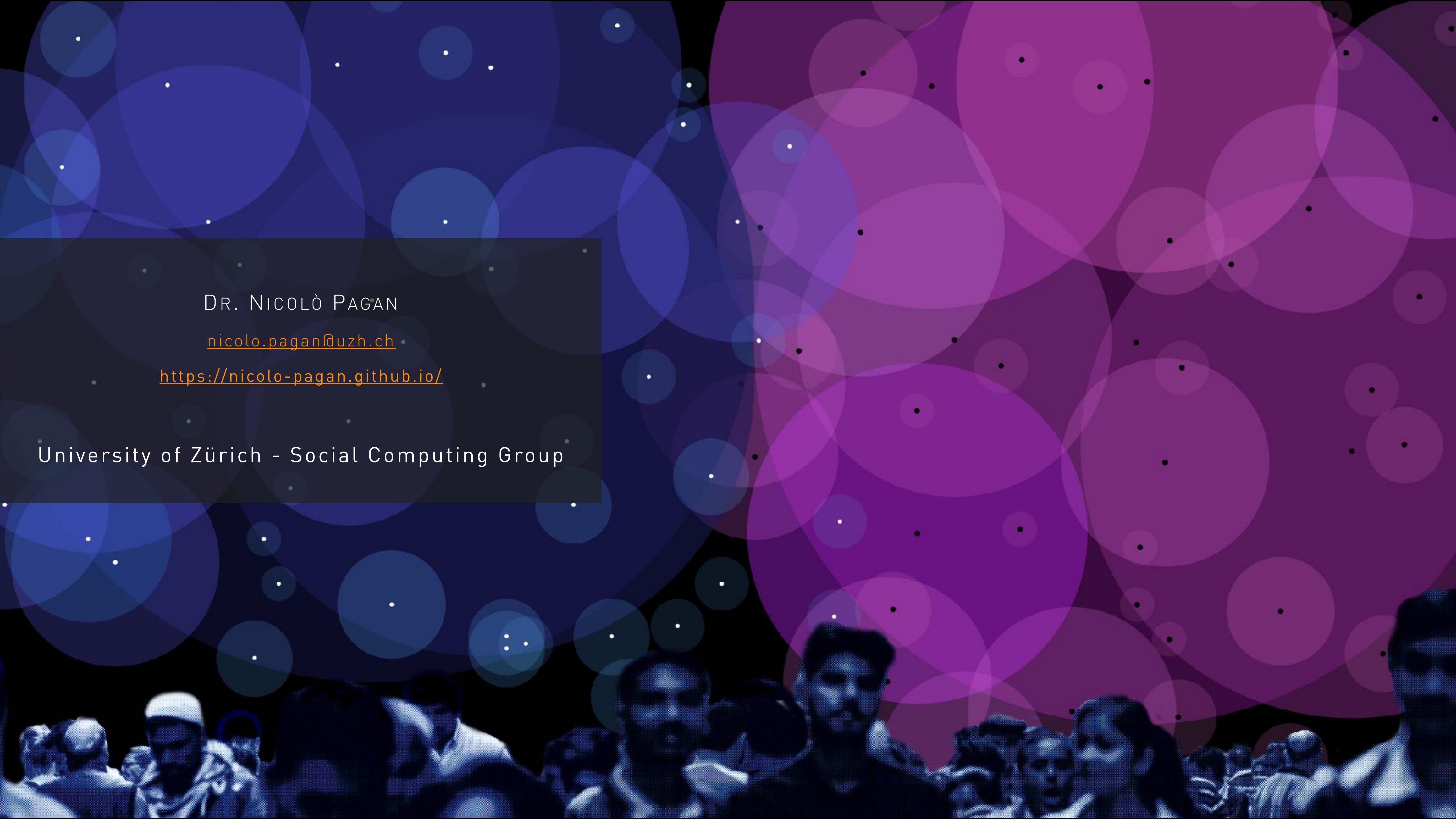
EXTREME PREFERENTIAL ATTACHMENT



← QUALITY →







DR. NICOLÒ PAGAN

nicolo.pagan@uzh.ch

<https://nicolo-pagan.github.io/>

University of Zürich - Social Computing Group