

# A VIEW FROM THE FRONTIER: AI in Entertainment

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# Introduction

## BIO

**Complex & High-Velocity Environments**

### STRATEGY

**Complex Systems**

**Data Science**

**Sales BizDev**

## ETC

**Director, Data & Analytics Project**

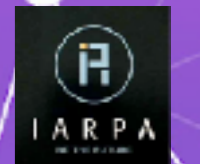
- Industry think-tank.
- Created by George Lucas.
- Technology for Entertainment.
- Projects: Cloud, VR, Data & Analytics.
- Accelerate the deployment of data & analytics solutions throughout studio & production operations.

## NOVAMENTE

**CEO**

- AI Engineering. Cognitive architectures for enterprise
- Co-founder: Ben Goertzel (OpenCog)
- Chief Data Scientist: Gian Gonzaga (Netflix, eHarmony)
- Full-service consulting/integration/custom build

**CLIENTS:**



# OVERVIEW

## AUDIENCE INTELLIGENCE

- **Storygraphics:** mapping narrative structures to box office returns (for feature films, trailers and ads).
- **Interestingness:** mathematical representation of why audiences think certain things are interesting.
- **Modeling influence in film:** looking at where people talk about movies and how much influence certain communities have (where and how) for each genre of movies.
- **Box Office ROI:** cameras in theaters to recognize demographics features of audiences.

## OPERATIONS

- **Content recognition:** layering GANS into neural symbolic architectures to do live recognition in video.
- **Unified Data Structure:** standard of content storage based on weighed, labeled hypergraphs (best knowledge representation architecture).
- **Project Snowflake:** mapping film looks to production equipment and workflows per budget per genre, optimized for KPIs or box office returns.

# “interestingness”

(J. Schmidhuber)

## bit compression rate

high  
compression  
rate



**familiar** people, problems,  
characters, stories,  
emotions and situations



low  
compression  
rate



**unfamiliar** people,  
problems, characters,  
stories, emotions and  
situations

there is an ideal compression rate (ratio of known to new) that draws  
the brain to want to collect new training data

too known

PERFECT RATIO

too new

known



new

# STORYTELLING CIPHER PROJECT (1)



## Summary of Findings

### Some Obvious

- AUDIENCE IMPACT RULES
- EXPERIENTIAL RULES
- OBTAINING RULES
- INTERNAL STATES PERFORM POORLY
- GENDER-BASED APPRECIATION SKEWS MALE
- TRICKING AUDIENCES DOES NOT WORK WELL

### Some Not So Obvious

- 3 ACT STRUCTURE DOES NOT PERFORM AS WELL
- STRENGTH OF TEMPORAL STORY ELEMENTS
- ACTS 2 & 3 ARE HARD
- OBTAINING ... EXCEPT AT THE END
- WILLINGNESS OF HERO DOES NOT MATTER
- PERSONAL TRAGEDY PERFORMS SURPRISINGLY WELL

we mapped 300 movies tagged with 72 story and character attributes to box office returns



# AI EDUCATION PROJECT FLOW



Senior Executives →  
CREATING A CULTURE OF DATA & AI

Senior Technical Practitioners →  
CREATING AN AI PRACTICE

Analysts & Engineers →  
CREATING TECHNICAL ASSETS