

Integrating Poisson regression into the undergraduate curriculum

USCOTS25 Breakout Session B3H

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Sheena Easton and Game Theory

Sheena Easton describes the following scenario for her baby:

1. Takes the morning train
2. Works from nine 'til five
3. Takes another train home again
4. Finds Sheena Easton waiting for him

A Total Conflict Game Between Sheena Easton and Her Baby

	Stays Home	Goes to Work
Baby Home Again	-100, 100	100 , 0
Baby Stays at Work	50 , 0	-100, 100

Sheena Easton and her baby are playing a **zero-sum (total conflict) game**.

- ▶ Akin to Holmes-Moriarty game (see: von Neumann and Morgenstern)
- ▶ Solution: **mixed strategy**

Rick Astley's Re-election Platform

Rick Astley's campaign promises:

- ▶ Never gonna give you up.
- ▶ Never gonna let you down.
- ▶ Never gonna run around and desert you.
- ▶ Never gonna make you cry.
- ▶ Never gonna say goodbye.
- ▶ Never gonna tell a lie and hurt you.

Are these promises (if credible) sufficient to secure re-election?

Rick Astley and Median Voter Theorem

Whereas these pledges conform to the preferences of the **median voter**, we expect Congressman Astley to secure re-election.

Caribbean Queen and Operation Urgent Fury

Billy Ocean released “Caribbean Queen” in 1984.

- ▶ Emphasized sharing the same dream
- ▶ Hearts beating as one

“Caribbean Queen” is about the poor execution of Operation Urgent Fury.

- ▶ Echoed JCS chairman David Jones’ frustrations with military establishment.

Billy Ocean is advocating for what became the Goldwater-Nichols Act.

- ▶ Wanted to take advantage of **economies of scale**, resolve **coordination problems** in U.S. military.

The Good Day Hypothesis

We know the following about Ice Cube's day.

1. The Lakers beat the Supersonics.
2. No helicopter looked for a murder.
3. Consumed Fatburger at 2 a.m.
4. Goodyear blimp: "Ice Cube's a pimp."

The Good Day Hypothesis

This leads to two different hypotheses:

- ▶ H_0 : Ice Cube's day is statistically indistinguishable from a typical day.
- ▶ H_1 : Ice Cube is having a good (i.e. greater than average) day.

These hypotheses are tested using archival data of Ice Cube's life.