



# MODEL LIFT

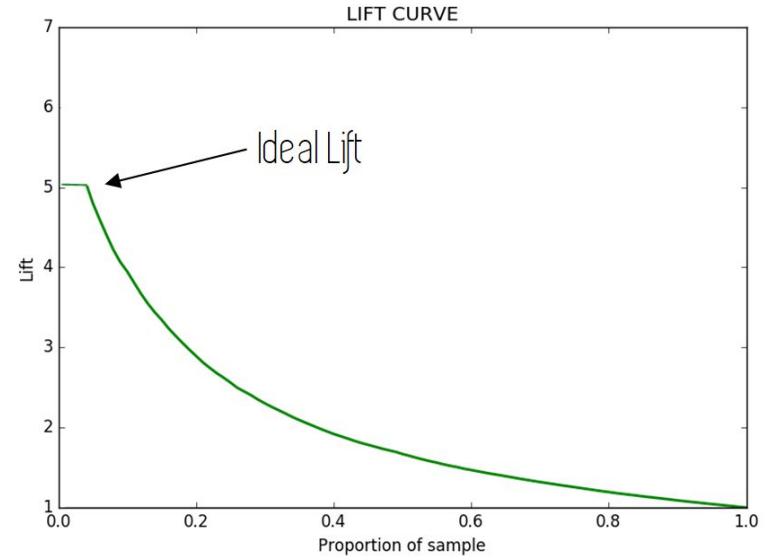
---

Ryan Lewis - 8/6/21

# MODEL LIFT – WHAT IS IT

---

- **MODEL LIFT** IS AN EVALUATION METRIC THAT CALCULATES A MODEL'S PREDICTED **CONVERSION RATE** AGAINST RANDOMLY SAMPLED OR NON-MODELED CONVERSION RATE
- THIS ALLOWS BETTER UNDERSTANDING ON A MODEL'S PERFORMANCE AGAINST A **TARGETED GROUP**
- EASIER TO INTERPRET THAN ROC & AUC, AND ALSO ALLOWS TO MEASURE PERFORMANCE OF MODEL ON TARGETED GROUPS



# MODEL LIFT – EXAMPLE

---

## NO MODEL

- A COMPANY IS LOOKING TO ACQUIRE NEW USERS THROUGH A MAIL CAMPAIGN
- COMPANY HAS BUDGET TO SEND **10,000** CATALOGS
- HISTORICAL CONVERSION RATE IS **5%**
- EXPECTED CONVERSIONS ARE **500** FROM THIS CAMPAIGN SENT RANDOMLY TO 10,000 POTENTIAL USERS FROM CRM DATABASE

## WITH MODEL

- DATA SCIENCE TEAM CREATES A **CLASSIFICATION MODEL** AND ASSIGNS A **PROBABILITY** OF CONVERSION TO EVERY USER IN CRM DATABASE
- LIST OF USERS & PROBABILITY IS GIVEN TO CAMPAIGN TEAM, THEY SELECT THE TOP 10,000 USERS AND MAIL CATALOGS TO THEM
- PREDICTED CONVERSION RATE ESTIMATES TO BE **20%** FOR THIS TARGET GROUP, RESULTING IN **2,000** CONVERSIONS
- RESULTING IN A **MODEL LIFT OF 4X** COMPARED TO W/O MODEL

# MODEL LIFT – TAKEAWAY

---

- MODEL LIFT IS AN **EASILY INTERPRETABLE METRIC** ALLOWING DATA SCIENCE & NON-DATA SCIENCE PROFESSIONALS TO UNDERSTAND THE IMPACT A CLASSIFICATION MODEL CAN HAVE ON A CAMPAIGN OR OTHER EVENT'S CONVERSION RATE
- IT REMOVES THE NEED TO UNDERSTAND HOW TRUE POSITIVE RATE AND FALSE POSITIVE RATE ARE USED TO CALCULATE **ROC** AND **AUC** IN TRADITIONAL MODEL EVALUATIONS
- CAN EASILY TIE BACK THE MODEL LIFT METRIC TO **REVENUE**, PROVING THE **WORTH** AND **PERFORMANCE** OF MODEL