



The Future of Enrollment Management: How Artificial Intelligence and Machine Learning Can Positively Impact GME Enrollment Outcomes

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Prescriptive Analytics and Intelligent Names

May 18, 2022

LIAISON 

Presenters



Andy Hannah

President



Adjunct Professor of Analytics, University of Pittsburgh

Senior Advisor and Faculty Member of the International Institute of Analytics

Board of Visitors, Katz Graduate School of Business, University of Pittsburgh

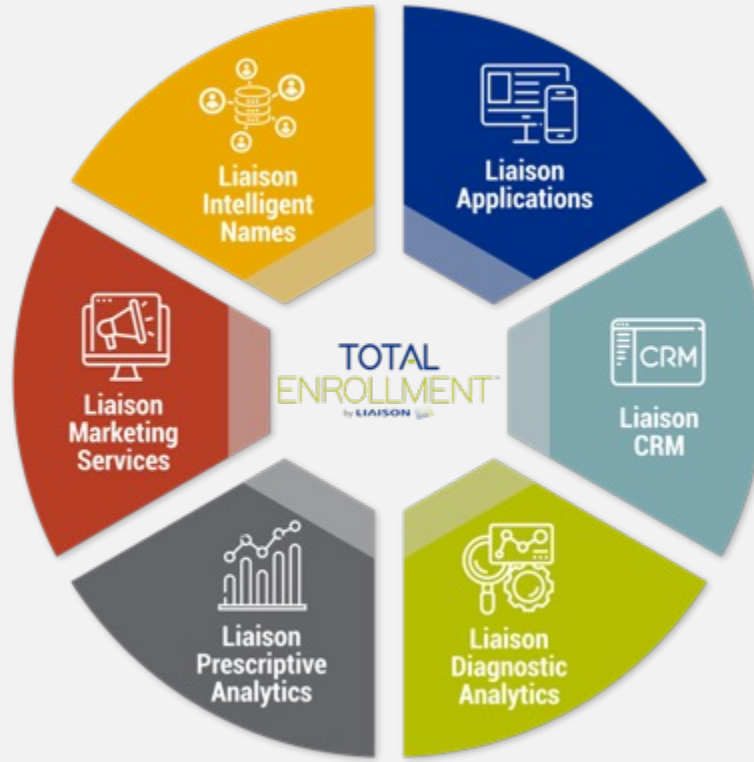


Stephen Taylor

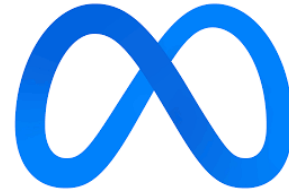
Research Director



Your Ecosystem Approach to the Student Journey



The Top Ten Harness Data, AI, Analytics



Alphabet

Alphabet



BERKSHIRE
HATHAWAY



2000's Top Ten Did Not

A man with a beard and short dark hair, wearing a blue blazer over a light blue shirt, is smiling broadly while looking at a laptop screen. He has his right hand resting on his head. The background is a blurred office or modern interior with wooden beams and large windows.

What is the Relevance to Higher Ed?

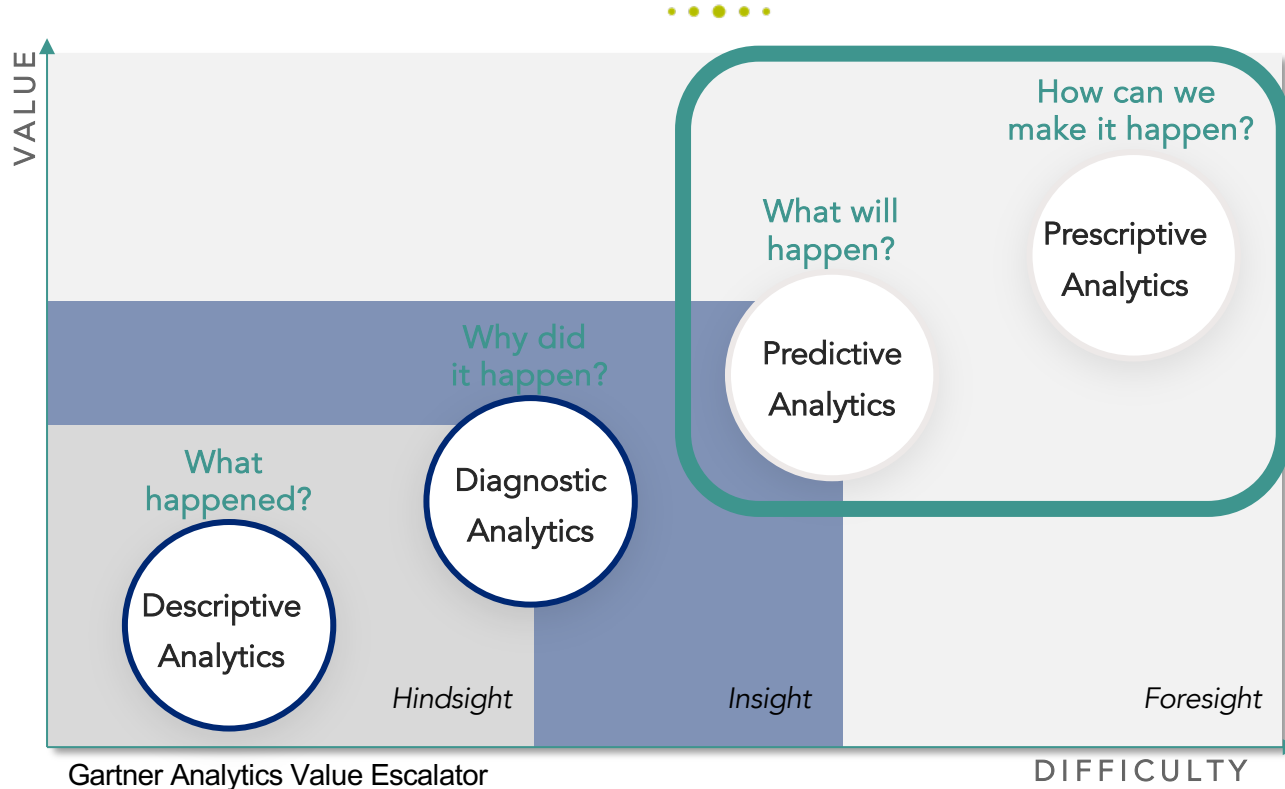




Insights is the language of decision makers



The Emergence of AI and ML as Decision Drivers



Gartner Analytics Value Escalator
www.gartner.com



AI and ML Create Better Outcomes for Students and Institutions



Enrollment



Recruiting
Admissions
Financial Aid

Student Success



Retention
Persistence
through Degree

Post Graduate Success



Placement
Managing Debt

Advancement



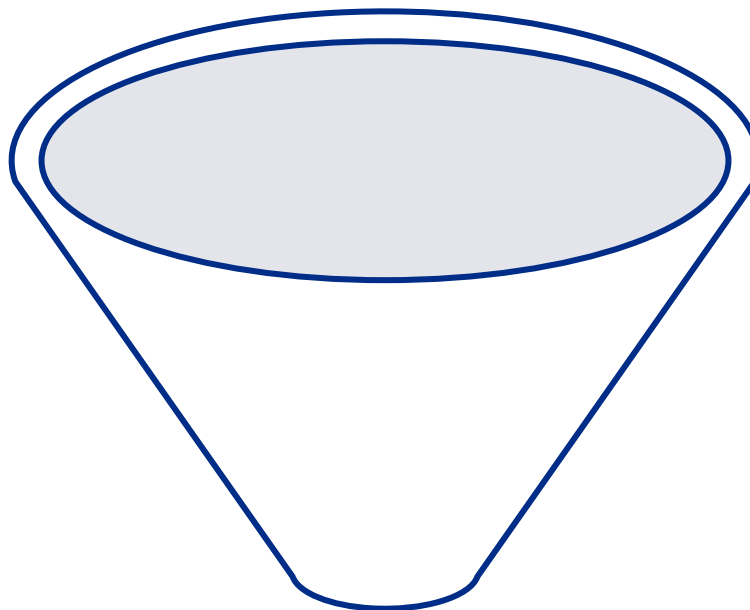
Fundraising
Volunteer
engagement
Returning Students

Predict Behavior and Prescribe Actions that Optimize Outcome

We Face Myriad of Challenges



- Cliff
- Test Optional
- International?
- Stealth
- Value
- Outcomes
- Resources



Top of funnel contacts

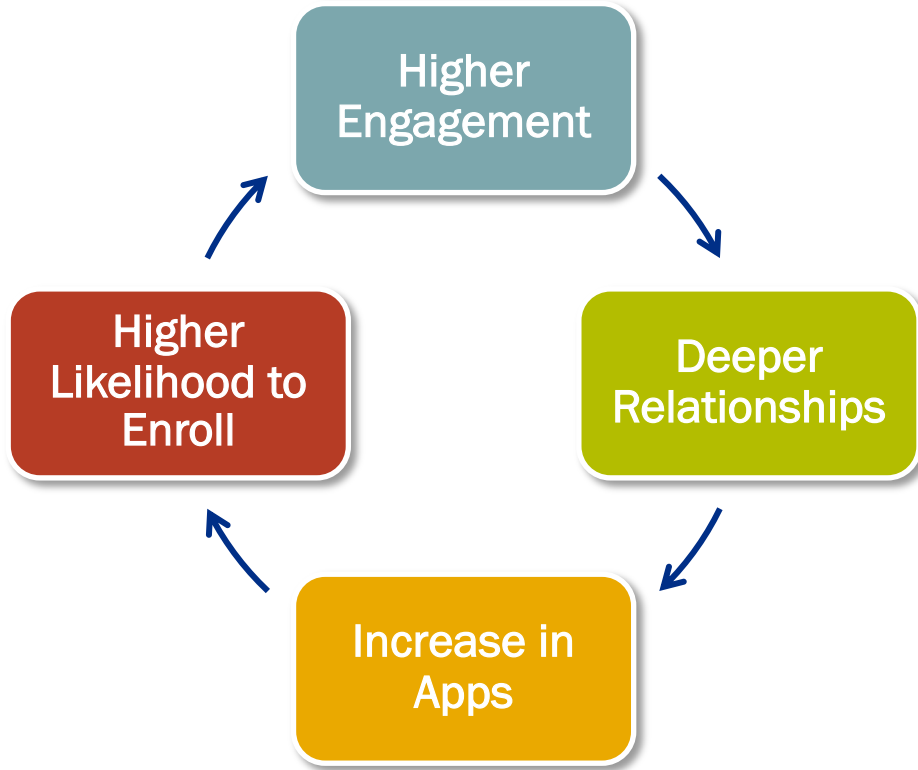
Enrolled Students



The Intelligent Funnel



Top of the Funnel Disruption



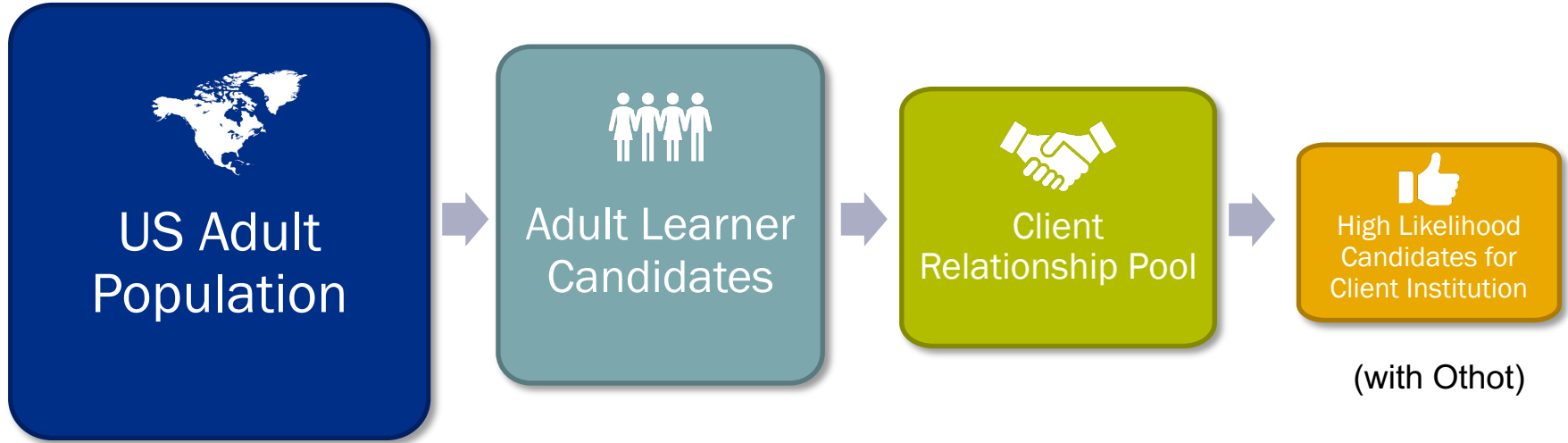
Propensity for Behavior



A customizable, cost-effective advanced analytics solution to start building relationships with the best adults for your institution

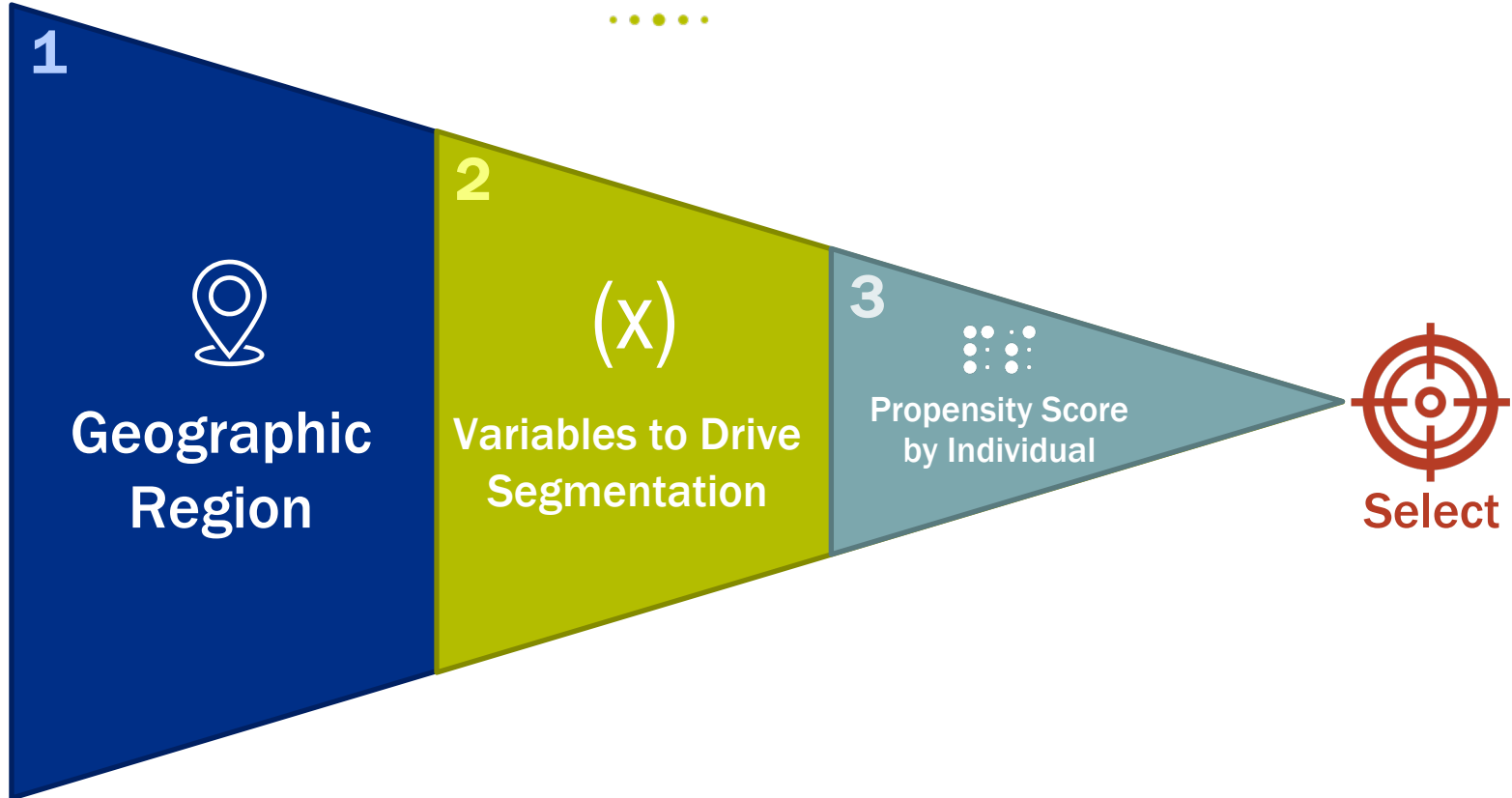


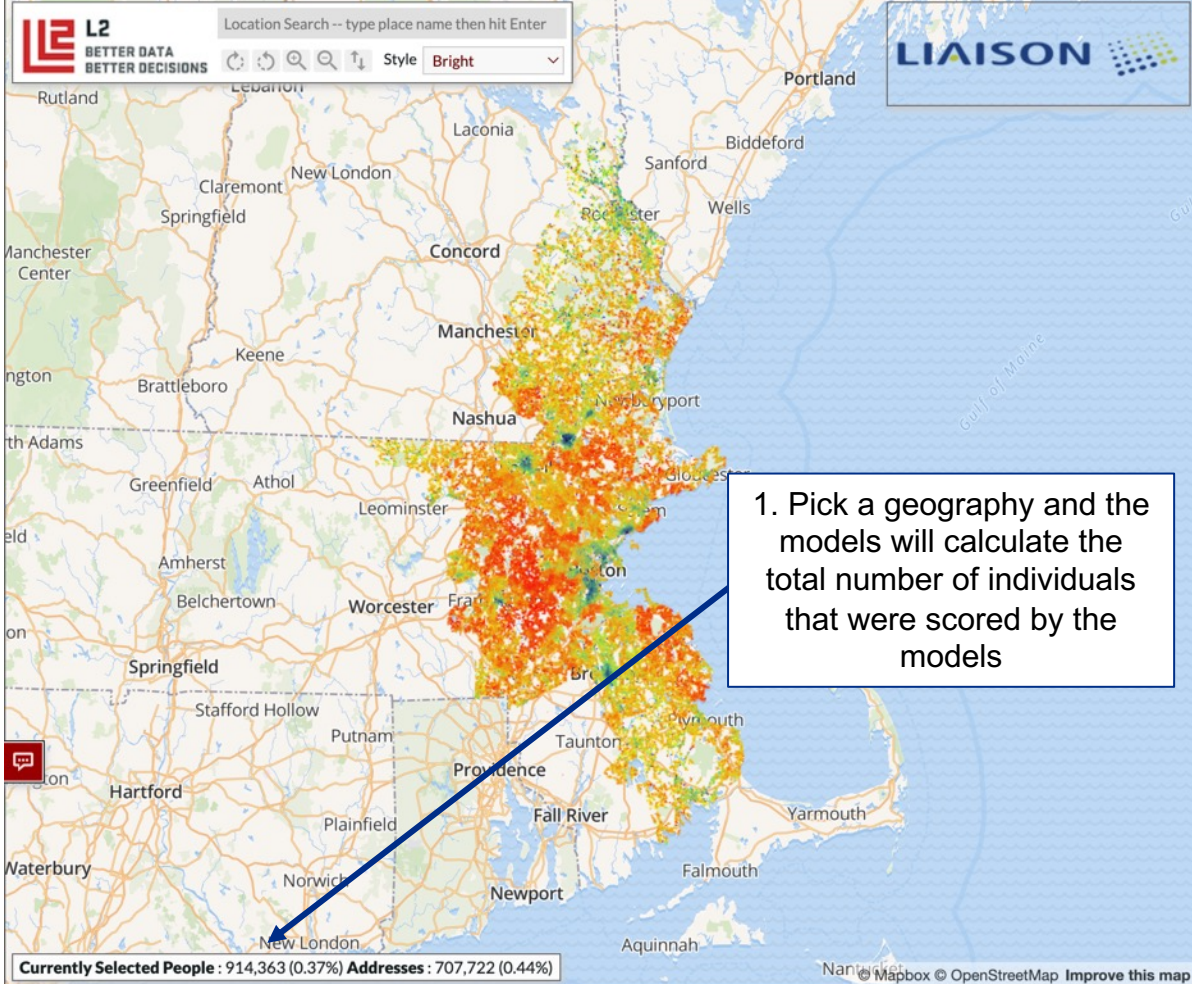
Intelligent Names: Targeting the Segments and Individual



- Focused on *Individualism* – just because “you” look like someone doesn’t mean you have the same academic ambitions
- Driven by “living analytics” – continuous updated as new data is available

What if you could





1. Pick a geography and the models will calculate the total number of individuals that were scored by the models

Cart (0) Sheet Charts % of Results Reset Image About

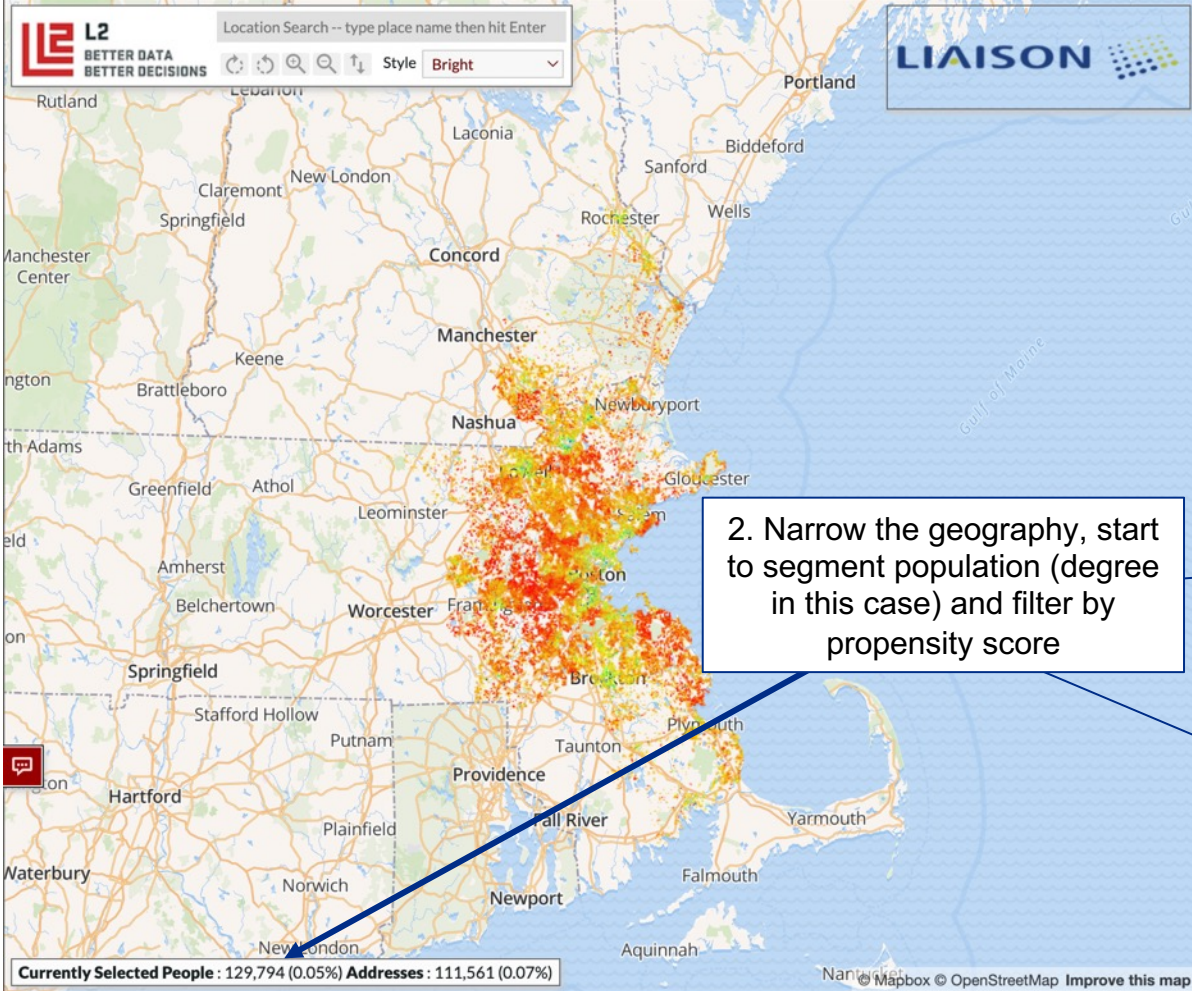
<input type="checkbox"/>	BOISE CITY-NAMPA, ID	0	0%
<input type="checkbox"/>	BONHAM, TX	0	0%
<input type="checkbox"/>	BOONE, IA	0	0%
<input type="checkbox"/>	BOONE, NC	0	0%
<input type="checkbox"/>	BORGER, TX	0	0%
<input checked="" type="checkbox"/>	BOSTON-CAMBRIDGE-QUIN...	914,363	100.000%
<input type="checkbox"/>	BOULDER, CO	0	0%
<input type="checkbox"/>	BOWLING GREEN, KY	0	0%
<input type="checkbox"/>	BOZEMAN, MT	0	0%
<input type="checkbox"/>	BRADENTON-SARASOTA-VE...	0	0%
<input type="checkbox"/>	BRADFORD, PA	0	0%
<input type="checkbox"/>	BRAINERD, MN	0	0%
<input type="checkbox"/>	BRANSON, MO	0	0%
<input type="checkbox"/>	BREMERTON-SILVERDALE, ...	0	0%
<input type="checkbox"/>	BRENHAM, TX	0	0%
<input type="checkbox"/>	BREVARD, NC	0	0%
<input type="checkbox"/>	BRIDGEPORT-STAMFORD-N...	0	0%
<input type="checkbox"/>	BRIGHAM CITY, UT	0	0%
<input type="checkbox"/>	BROOKHAVEN, MS	0	0%

- ▶ Core Based Statistical Area Name
- ▶ Core Based Statistical Area Code
- ▶ Combined Statistical Area Name
- ▶ Combined Statistical Area Code
- ▶ DMA Zone
- ▶ DMA Code
- ▶ Telephone
- ▶ Individual Characteristics
- ▶ Household Characteristics
- ▶ Census Data
- ▶ HaystaqDNA
- ▼ Private Data (2) +
 - ▼ Othot Intelligent Names (2)
 - ▼ Matched (1)

<input type="checkbox"/>	Unknown	0	0%
<input checked="" type="checkbox"/>	Yes	914,363	100.000%

CLOSE

VM: 2.0.4032 | C: 1A3B | S: L208.f096 | TS: 220504.164815.88.615 [0.4]



United States (Liaison1) Minorori Hayakawa

Cart (0) Sheet Charts % of Results Reset Image About

- Metropolitan Statistical Area (1) ✓1
 - Core Based Statistical Area Name
 - Core Based Statistical Area Code
 - Combined Statistical Area Name
 - Combined Statistical Area Code
 - DMA Zone
 - DMA Code
 - Telephone
 - Individual Characteristics
 - Household Characteristics
 - Census Data
 - HaystaqDNA
- Private Data (3) +
 - Othor Intelligent Names (3)
 - Matched (1) ✓1

<input type="checkbox"/> Unknown	0	0%
<input checked="" type="checkbox"/> Yes	129,794	100.000%
 - Education (1) ✓2

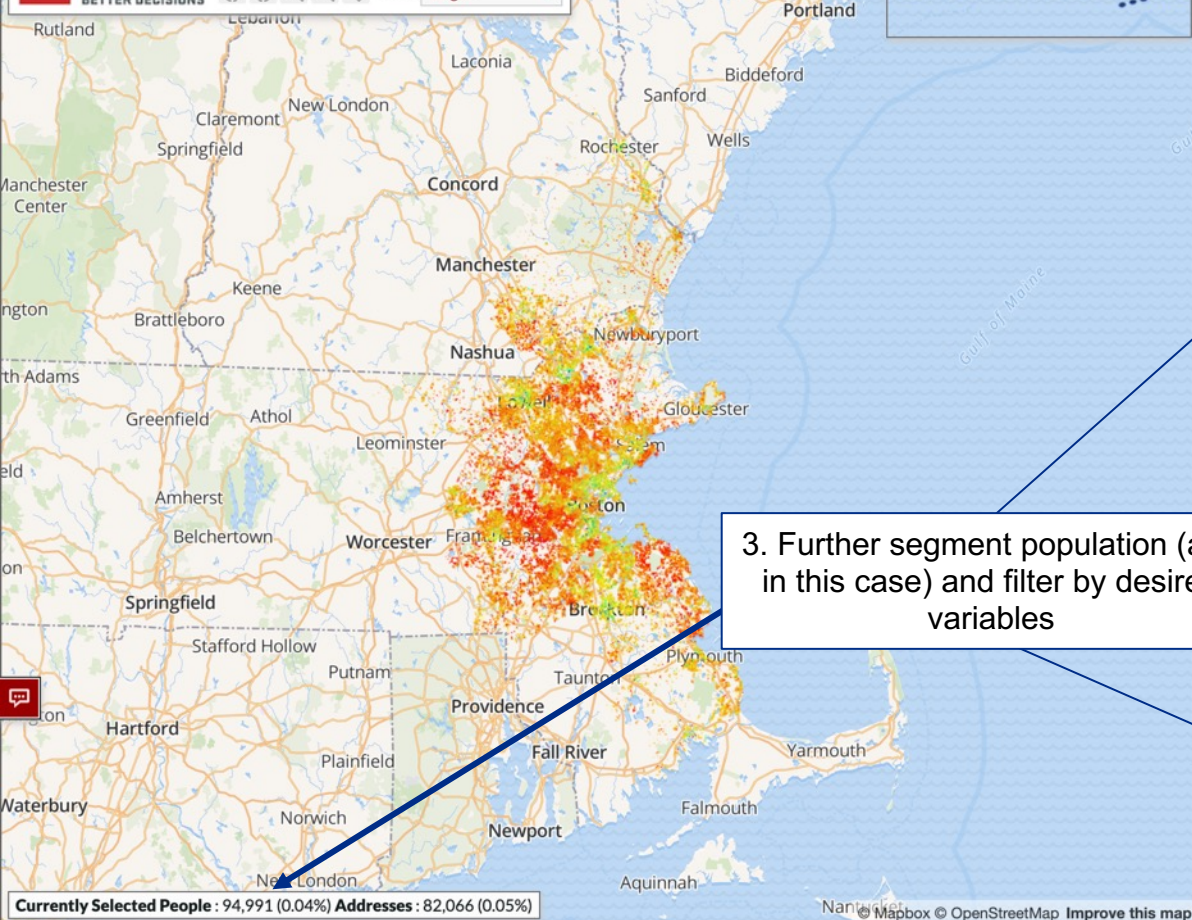
<input checked="" type="checkbox"/> Completed College	96,891	74.650%
<input checked="" type="checkbox"/> Graduate School	32,903	25.350%
<input type="checkbox"/> High School	0	0%
<input type="checkbox"/> Some College	0	0%
<input type="checkbox"/> Some High School	0	0%
<input type="checkbox"/> Unknown	0	0%
<input type="checkbox"/> Vocational School	0	0%
 - GradIntenScore (1)
 Filter by range (5 - 92)

From: 65 x

To: 87 x

Include Unkno...
 - Quintile Rank by State

VM: 2.0.4032 | C: 1A3B | S: L208.I096 | TS: 220504.164815.88.701 | 396.4 |



Currently Selected People : 94,991 (0.04%) Addresses : 82,066 (0.05%)

3. Further segment population (age in this case) and filter by desired variables

Cart (0) Sheet Charts % of Results Reset Image About

Individual Characteristics (1)

- Gender
- Age (1)
 - Inferred Age
 - Age (By Birth Date)
 - Birth Date Confidence
 - Age Range (1) 5**

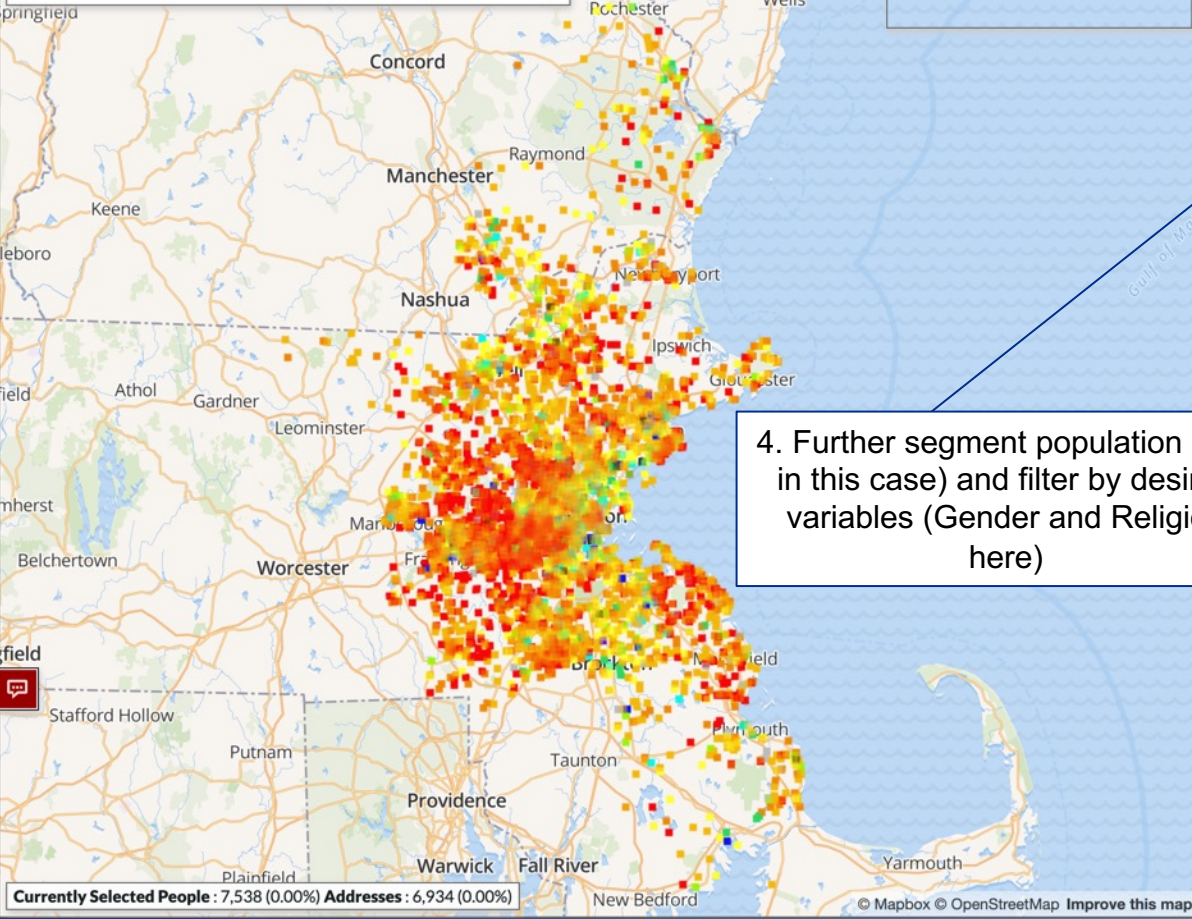
<input checked="" type="checkbox"/>	Between 18 and 24	0	0%
<input checked="" type="checkbox"/>	Between 25 and 29	15,588	16.410%
<input checked="" type="checkbox"/>	Between 30 and 34	23,909	25.170%
<input checked="" type="checkbox"/>	Between 35 and 39	31,167	32.810%
<input checked="" type="checkbox"/>	Between 40 and 44	24,327	25.610%
<input type="checkbox"/>	Between 45 and 49	0	0%
<input type="checkbox"/>	Between 50 and 54	0	0%
<input type="checkbox"/>	Between 55 and 59	0	0%
<input type="checkbox"/>	Between 60 and 64	0	0%
<input type="checkbox"/>	Between 65 and 69	0	0%
<input type="checkbox"/>	Between 70 and 74	0	0%
<input type="checkbox"/>	Between 75 and 79	0	0%
<input type="checkbox"/>	Between 80 and 89	0	0%
<input type="checkbox"/>	90+	0	0%
<input type="checkbox"/>	Unknown	0	0%

- Marital Status
- Occupation Group
- Occupation of Person
- Ethnic Code
- Ethnic Group
- Hispanic Country of Origin
- English Language Assimilation
- Primary Language
- Religion

<input type="checkbox"/>	Buddhist	7,517	7.913%
<input type="checkbox"/>	Catholic	44,107	46.433%
<input type="checkbox"/>	Eastern Orthodox	2,634	2.773%

Mapbox © OpenStreetMap Improve this map

VM: 2.0.4032 | C: 1A3B | S: L208.f096 | TS: 220504.164815.88. 933 | 1.2 |



Cart (0) Sheet Charts % of Results Reset Image About

Individual Characteristics (3)

Gender (1) ✓ 1

<input checked="" type="checkbox"/>	Female	7,538	100.000%
<input type="checkbox"/>	Male	0	0%
<input type="checkbox"/>	Unknown	0	0%

Age (1)

- Marital Status
- Occupation Group
- Occupation of Person
- Ethnic Code
- Ethnic Group
- Hispanic Country of Origin
- English Language Assimilation
- Primary Language

Religion (1) ✓ 1

<input type="checkbox"/>	Buddhist	0	0%
<input type="checkbox"/>	Catholic	0	0%
<input type="checkbox"/>	Eastern Orthodox	0	0%
<input type="checkbox"/>	Greek Orthodox	0	0%
<input type="checkbox"/>	Hindu	0	0%
<input type="checkbox"/>	Islamic	0	0%
<input checked="" type="checkbox"/>	Jewish	7,538	100.000%
<input type="checkbox"/>	Lutheran	0	0%
<input type="checkbox"/>	Mormon	0	0%
<input type="checkbox"/>	Protestant	0	0%
<input type="checkbox"/>	Shinto	0	0%
<input type="checkbox"/>	Siku	0	0%
<input type="checkbox"/>	Unknown	0	0%

Education of Person

- Business Owner
- Investments Personal
- Political Ideology
- Registered to Vote
- Has Email

CLOSE

Mapbox © OpenStreetMap Improve this map

VM: 2.0.4032 [C: 1A3B | S: L208.f096 | TS: 220504.164815.88. 1006 | 354.0]

Currently Selected People : 7,538 (0.00%) Addresses : 6,934 (0.00%)

What happens next?



- School selects names
- They receive:
 - Email addresses (20% – 50% fill)
 - Mailing address for direct mail/loading into social media platform
 - Can work with L2 for social media campaigns (will be additional cost)
 - Cell phone number for text campaign (no additional cost)
- Work with EMP to develop marketing campaigns (case-by-case)



Enrollment



What is the **outcome** that you want?

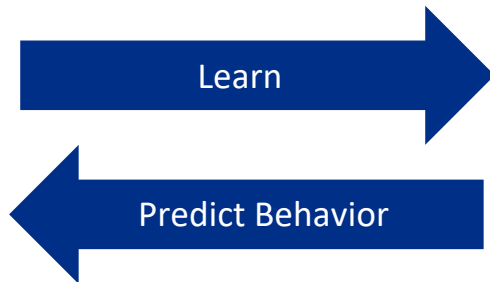


- ✓ A better shaped class that thrives at your institution
- ✓ A reduction in staff/student time, effort, and cost

What You Need:

- Improved understanding of student behavior (through data)
- Personalization (what will have the biggest impact on which students, and when?)

How It Works

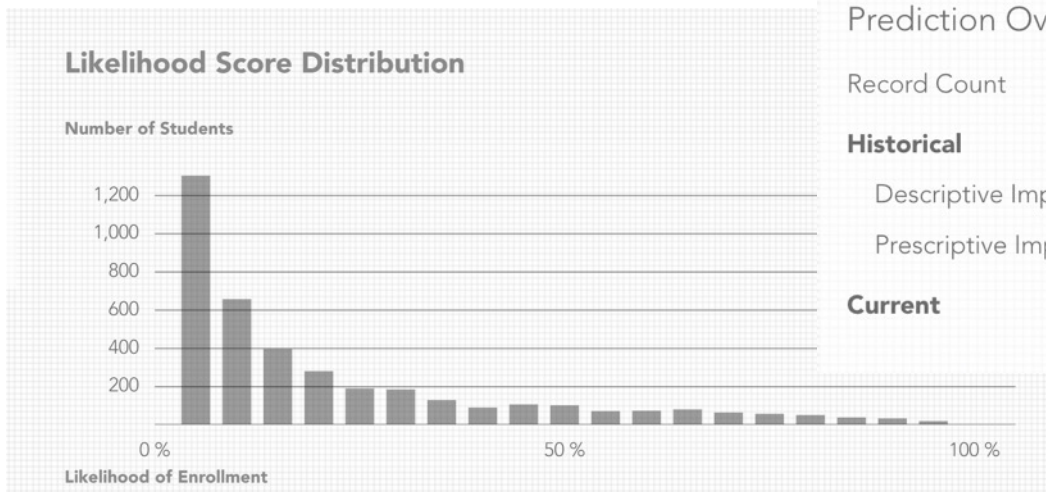


20%
Likely



80%
Likely

ML Is the Pathway to A Better Shape



Prediction Overview

Record Count	3,979
Historical	206
Descriptive Impact	10
Prescriptive Impact*	0
Current	216

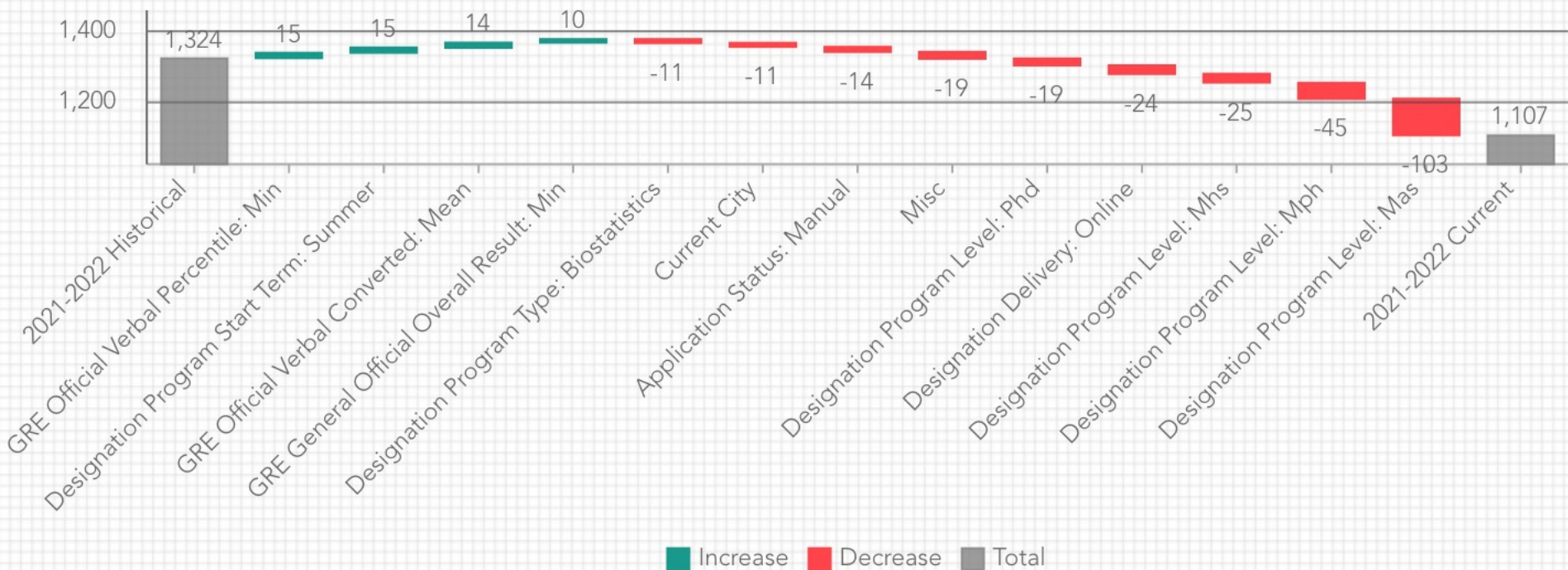
Focus on
Individuals:

Geography

Diversity

Academic
Attributes

Explainable AI Increases Trust and Usability



Identify The Individual Actions To Maximize Yield



2021 Students ALL

Likelihood Score	Student ID	Life Cycle	Counselor Name	Decile (Numeric)	Recommendation 1	Recommendation 2
36%	003410000qrXimAAE	Inquiry	COUNSELOR 8		1 Inq: Apply Now Postcard	Campus Visit
37%	00341000029ougDAAQ	Inquiry	COUNSELOR 8		1 Inq: Apply Now Postcard	Campus Visit
41%	003410000qcMTLAA2	Inquiry	COUNSELOR 8		1 Inq: Apply Now Postcard	Campus Visit
72%	003410000qclsuAAE	Inquiry	COUNSELOR 2		1 Inq: Financial Brochure	
39%	003410000qclrlAAU	Inquiry	COUNSELOR 8		1 Inq: Apply Now Postcard	Campus Visit
62%	003410000qcKJURAA2	Inquiry	COUNSELOR 8		1 Inq: Apply Now Postcard	Inq: Financial Br
75%	0031L00002uDqHgQAK	Inquiry	COUNSELOR 1		1 Inq: Visit Postcard	
34%	0034100001mgnWYAAY	Inquiry	COUNSELOR 10		1 Inq: Apply Now Postcard	Campus Visit
47%	00341000024rJ9mAAE	Inquiry	COUNSELOR 1		1 Inq: Apply Now Postcard	Campus Visit
64%	003410000qcloWAAU	Inquiry	COUNSELOR 8		1 Inq: Apply Now Postcard	Inq: Financial Br
62%	0034100001lq1c9AAA	Inquiry	COUNSELOR 8		1 Inq: Visit Postcard	
35%	0031L00002qsEUMQA2	Inquiry	COUNSELOR 8		1 Inq: Apply Now Postcard	Campus Visit

Othot Identifies the **Most Impactful** action for each individual student. This can drive personalized campaigns throughout the enrollment cycle.

- Scenario
- Matrix
- Sensitivity
- What-If

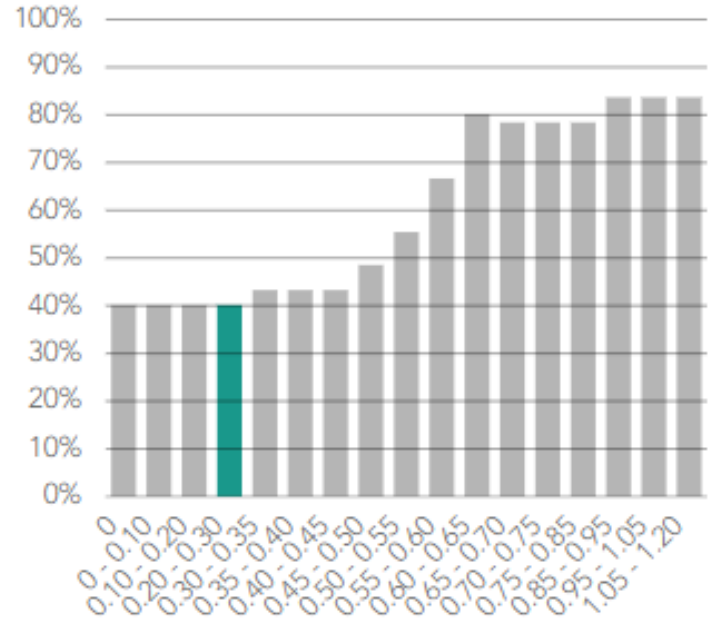
ML Is The Pathway to Leverage



Additional \$ Amount

% Tuition Met By All Aid Sensitivity

Unique Id	0	0 - 2,000	2,000 - 5,000	5,000 -
4186791	2%	4%	4%	4%
4186816	0%	8%	8%	8%
4186820	0%	3%	3%	3%
41868261	44%	42%	42%	51%
4186861	0%	3%	3%	3%
4186971	0%	0%	0%	0%
41871401	7%	23%	31%	39%
4187237	4%	11%	11%	11%
41872371	28%	34%	34%	34%
4187264	2%	12%	12%	12%





Using the platform, Pitt Law:

- ✓ Analyzed data by diversity
- ✓ Targeted more competitive candidates
- ✓ Expanded its prospect base
- ✓ Focused on increasing LSAT scores

Results:

- ✓ Increase diversity by **7%**
- ✓ Improve ave LSAT scores to goal of **160**
- ✓ Best admissions year yet in terms of scores, GPA, and gender-based demographics



Challenges:



Optimize marketing spend



Find efficiencies in CRM

Solutions:

- Used Othot platform predictions to understand factors that drive enrollment
- Optimized marketing and recruiting efforts to identify students most likely to enroll and increase recruiting event attendance more than 30%
- Utilized CRM for tracking student lifecycle and automating communications, triggers, etc.

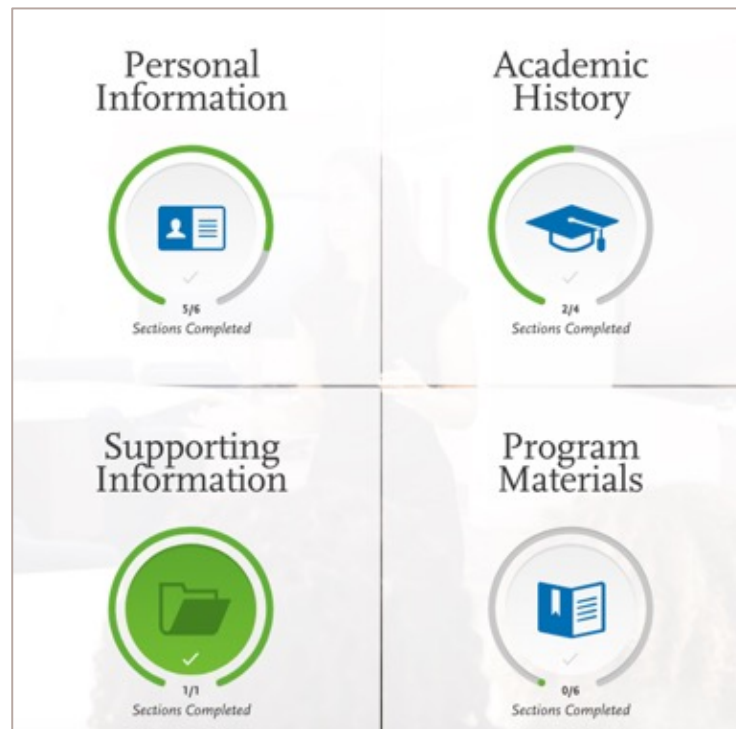
Results:

- Exceeded goal by 322 students (9% growth in 3 years)
- Achieved opportunity to guide strategy for university five-year plan

Centralized Application Model



- Meet centralized admissions requirements while providing for unique program needs, including:
 - Program-specific applicant questions
 - Supplemental document uploads



Finding the Best Fit Students



Intelligent
Names

High Propensity to
Enroll in Graduate
Education



High
Impact
Names

High Likelihood
to Enroll at
Your School



Q & A



GMAC Liaison Hosted Events

Baltimore, MD



- **Liaison Hosted Networking Dinner** | June 14 at 06:30 p.m.
- **Liaison Hosted Happy Hour** | June 16 at 06:30 p.m.

Contact Robert Ruiz for more information if you would like to attend



Robert Ruiz
Vice President, Strategic Enrollment

617-612-2087
rruiz@liaisonedu.com



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ATLANTA | NOVEMBER 2023

Thank You



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