

Using Predictive Analysis to Generate University Recommendations









About IIE - Staff





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About IIE - Our Mission





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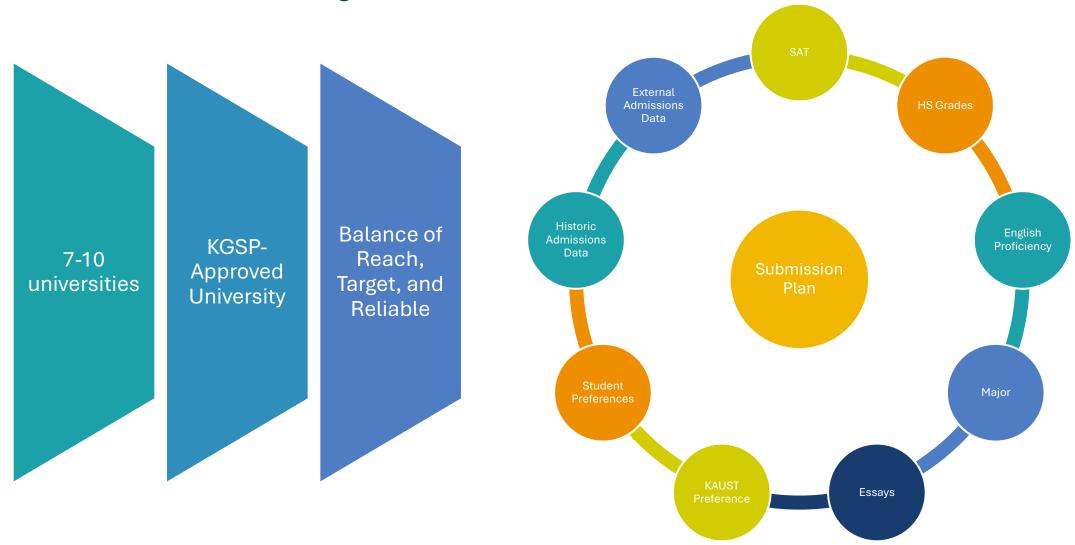
IIE + KAUST Partnership







Submission Planning – Without AI

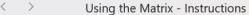






Submission Planning – Without AI

University	High-Value	KGSP Approved Applications Submitted (2022-2023)	KGSP Approved. Applicants Admitted (Admitted Only) (2022–2023)	App rove d. Appl	d App 10	ve App Lrove pld.		ve d. L Appl	T Abb to	ppl <u>d</u>	App p rove e d Appl	KGS P P Ap App rov rove d Appl ica ican on	ol q rove	d ros Appl d	KGSP Average Admissions Rate (2014–2022)	KGSP Admissions Rate (2022-23)	2022- 23	202 20 1-22 0-2	201 2 9- 21 20	201 ; B-19 7	201 Average SAT Mat 7-18 2022-23	n SAT Math Range 2022-23	Aver SAI age Mat SAT h Mat Ran h ge 202 202 1-22 1-22	Aver s age SAT Mat h 202	Mat ag h Si Ran M ge 202 2 0-21	er SAT per SAT he sat Ran SAT he sat Ran SAT he sat Ran SAT Per SAT	Aver SAT age Mat SAT h Mat Ran h ge 201 201 8-19 8-19	Aver S age M SAT Mat R h g 201 2 7-18 7	AT Aver SA1 lat age Mai h SAT h an Mat Rai ge h ge :01 201 20' -18 6-17 6-1
Boston University		13	9	13	11	7 5	10	7 16	15 1	14 7	21	17 41	23	34 1	69.24%	69.23%	4	4 2	2	5	2 736	600-780	703 90-79	3 790 E	30-80 7	36 60-80	729 40-79	710 50	0-79 727 00-8
Brown University		6	0	1	0 -	2	3	1 8	0 8	8 1	2	0 7	1	9 0	13.76%	0.00%	0	0 1	1	0	1 #N/A	#N/A		800	800 7	30-730	ı	700 00	<i>i</i> -700
California Institute of Technolo	ogy	3	0	1	0 :	3 0	9 () 11	0 3	3 0	3	0 4	0	4 0	0.00%	0.00%	0	0 0	0	0	0 #N/A	#N/A							
California Polytechnic State Ur	niversity, San Luis Obispo	0	0	5	3 :	3	1	0	0 4	4 2	9	5 11	4	10 5	#DIV/0!	#DIV/0!	0	0 0	0	0	0 #N/A	#N/A	633 90-67	783 F	80-80 7	30-730	Į.	790 80	0-80 716 30-7
Carnegie Mellon University		1	0	11	1 1	3 3	12 :	15	0 5	5 0	6	1 9	0	2 0	8.19%	0.00%	0	0 2	1	0	0 #N/A	#N/A	630 30-63	3 800	800 7	95 90-800	1		800 00-8
Case Western Reserve Univers	sity	0	0	13	10	7 7	8	7 11	5 1	11 1	0	0 0	0	1 1	#DIV/0!	#DIV/0!	0	0 0	0	0	0 #N/A	#N/A	716 60-80	770 (40-80 7	67 00-80	778 20-80	710 710	<i>i</i> -710
College of William and Mary		0	0	0	0	1 1	1	1 1	1 (0 0	0	0 0	0	0 0	#DIV/0!	#DIV/0!	0	0 1	0	0	0 #N/A	#N/A		780	780 7	30 30-73	750 50-75	50	
Colorado School of Mines		4	4	4	4	7 6	13 1	5	4 1	19 15	17	14 0	0	0 0	#DIV/0!	100.00%	0	0 1	2	1	4 695	650-800	715 70-75	5 721 E	80-80 6	91 10-77	718 90-75	703 00	0-80 704 30-8
Columbia University		12	2	11	3 :	9 2	5	6	0 6	6 0	4	0 0	0	5 0	#DIV/0!	16.67%	1	2 1	1	0	0 750	700-770	747 60-80	800	800 8	00 00-800	,		
Cornell University		14	0	14	1 -	1 2	5 :	2 7	1 2	2 0	4	0 7	0	7 1	11.74%	0.00%	0	1 2	0	0	0 #N/A	#N/A	800 00-80	790 7	80-80 7	80 60-80	800 00-80	00	
Dartmouth College		0	0	0	0	0	0 1) 1	0 -	1 0	2	0 2	0	0 0	#DIV/0!	#DIV/0!	0	0 0	0	0	0 #N/A	#N/A							
Duke University		3	0	5	0 !	5 1	4 1	13	0 8	8 0	5	0 6	0	1 0	2.50%	0.00%	0	0 0	0	0	0 #N/A	#N/A		800	800				
Emory University		1	0	4	1 !	5 2	9 :	3 10	3 5	9 3	4	2 4	2	0 0	#DIV/0!	0.00%	0	1 1	1	1	3 #N/A	#N/A	790 90-75	3 755 °	10-80 7	50 30-76	690 60-73	723 60	0-77 705 80-7
George Washington University		2	2	5	4	7 0	6 !	5 4	3 5	9 5	11	10 10	5	1 1	66.85%	100.00%	0	2 0	0	2	1 640	630-650	735 50-77	70	7	08 60-79	747 80-75	714 70	0-80 698 00-7
Georgetown University		0	0	0	0	0	0 1	0	0 .	1 0	1	0 0	0	0 0	#DIV/0!	#DIV/0!	0	0 0	0	0	0 #N/A	#N/A				\top			
Georgia Institute of Technolog	39	16	2	27	3 2	6 1	25	30	1 1	15 5	18	0 17	2	24 0	9.92%	12.50%	1	1 2	1	0	4 753	700-790	777 70-78	3 800	800 7	63 00-80	790 90-79	734 90	J-790
Harvard University		2	0	1	0	7 0	3 1	7	0 3	3 0	5	0 6	0	7 0	0.00%	0.00%	0	0 0	0	0	0 #N/A	#N/A		П		\top			
Harvey Mudd College		0	0	3	0	7 0	2	1 13	2 1	10 1	3	1 1	1	0 0	#DIV/0!	#DIV/0!	0	0 0	0	1	1 #N/A	#N/A			8	00-80	795 90-80	800 00	0-80 740 40-7
low a State University of Science	ce and Technology	0	0	0	0	0	4 .	2	2 5	5 5	0	0 12	8	32 2	#DIV/0!	#DIV/0!	0	0 0	0	0	0 #N/A	#N/A		П	6	83 60-72	730 90-77	702 80	J-750
Johns Hopkins University		1	0	6	0 -	1 0	3	5	2 2	2 0	3	0 8	1	6 0	10.73%	0.00%	0	0 0	0	0	0 700	700-700			7	90 90-79	795 90-80	00	
Massachusetts Institute of Tec	chnology	10	4	17	4 2	2 1	16	7 19	3 1	10 0	14	3 16	1	15 3	16.91%	40.00%	4	4 1	7	4	0 780	760-800	800 100-80	800	800 7	93 60-80	800 00-80	00	793 90-8
Michigan State University		2	2	7	7 :	3 3	17 1	6 7	6 1	17 16	0	0 34	24	64 5	2 #DIV/0!	100.00%	0	0 1	1	0	3 720	680-760	633 510-75	5 720 r	00-73 7	05 10-80	723 70-75	685 60	J-780
New York University		10	2	5	1	7 1	3	1 9	1 9	9 2	0	0 5	1	4 0	#DIV/0!	20.00%	3	0 1	0	0	0 735	720-760	663 90-76	3 800	800 7	90 90-79	750 50-75	710 710	J-710
North Carolina State University		18	18	16	16	6	35 3	1 20	20 1	15 15	33	29 49	41	63 1	84.70%	100.00%	2	0 0	5	5	4 678	580-790	680 60-78	3 713 :	30-76 7	08 10-79	715 90-80	663 60	0-78 695 60-7
Northwestern University		13	0	6	1	7 1	13	l 14	0 5	9 2	8	0 8	1	5 0	9.17%	0.00%	0	0 1	1	0	2 #N/A	#N/A	800 100-80	780	780 7	90-790	,	765 40	j-790
Oberlin College		0	0	2	2	0	0 1	0	0 0	0 0	0	0 0	0	0 0	#DIV/0!	#DIV/0!	0	1 0	0	0	0 #N/A	#N/A	730 60-80	30					
Occidental College		0	0	1	1 1	0	0 1	0	0 (0 0	0	0 0	0	0 0	#DIV/0!	#DIV/0!	0	0 0	0	0	0 #N/A	#N/A	610 510-61	10					
Ohio State University		9	8	8	7	6	13 1	3 13	10 1	10 3	0	0 14	5	33 0	#DIV/0!	88.89%	0	1 0	1	2	0 715	630-760	717 60-80	781 7	20-80 7	44 50-80	745 70-80	693 50	j-750
Oregon State University - Corv	vallis	0	0	1	1 :	2 2	4 (4	3 6	6 5	0	0 1	1	0 0	#DIV/0!	#DIV/0!	0	0 0	0	0	1 #N/A	#N/A	750 50-75	5 705 F	80-73 7	00 60-75	657 90-65	708 40	j-780
Pennsylvania State University-	-University Park Campus	31	31	21	20 1	7 16	27 2	7 12	12 5	57 55	41	40 33	26	0 0	#DIV/0!	100.00%	5	3 2	3	1	6 699	610-800	707 \$10-80	763	80-80 7	08 \$10-80	733 70-80	709 50	0-80 702 60-8
Pomona College		0	0	1	1 :	3 1	2	1 4	1 (0 0	0	0 0	0	0 0	#DIV/0!	#DIV/0!	0	1 0	1	1	0 #N/A	#N/A	610 510-61	800	800 7	00 00-70	750 50-75	50	
Princeton University		2	1	0	0 !	5 0	3 1) 2	0 3	3 0	5	0 5	0	4 0	#DIV/0!	50.00%	1	0 0	0	0	0 700	700-700							
Purdue University		48	19	39	16 4	1 19	43 1	6 36	30 4	15 29	46	20 74	20	50 2	49.11%	39.58%	7	2 3	1	6	9 744	620-800	766 60-80	3 770 8	80-80 7	49 60-80	738 40-80	735 40	0-80 725 00-8
Rensselaer Polytechnic Institu	ite	0	0	17	17 :	9	24 2	3 30	15 3	33 6	30	14 20	19	24 1:	69.98%	#DIV/0!	0	1 1	5	2	0 #N/A	#N/A	714 60-80	741	30-80 7	23 50-80	775 50-80	727 50	0-79 721 00-7
Rice University		1	0	4	0 -	1 0	4 1	12	0 2	2 0	5	0 2	0	5 0	0.00%	0.00%	0	0 1	0	0	0 #N/A	#N/A	780 80-78	30					



Matrix_Updated July 2023

AY 22-23 Application Numbers

AY 23-24 HV Universities

Placement Report_06.30.23

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Submission Planning – Without AI

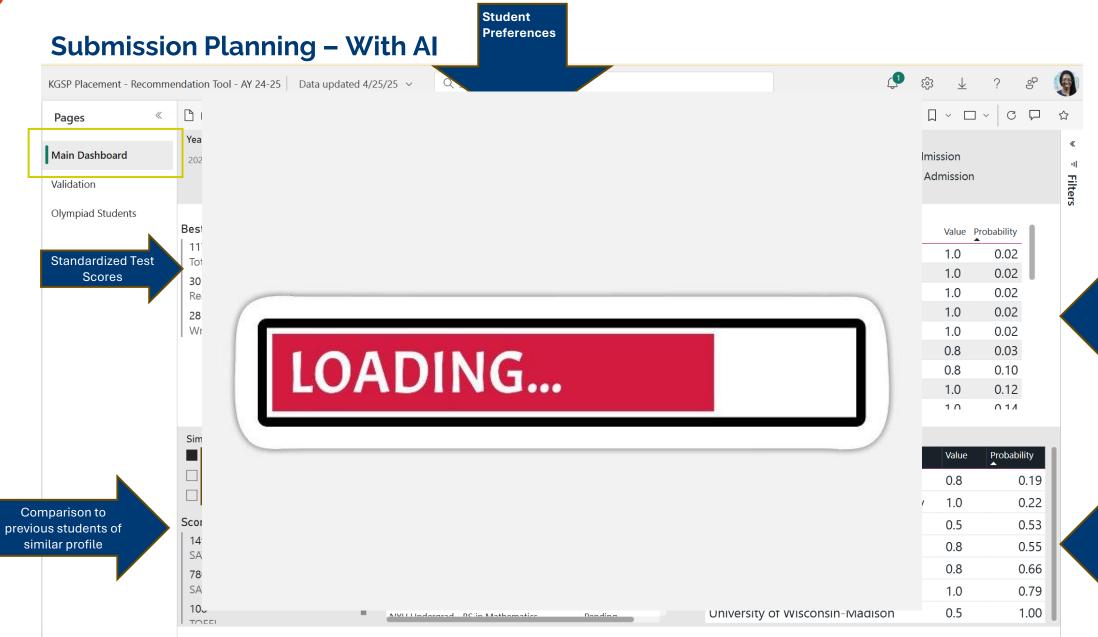
		Average TOEFL		Aver TOE	Aver TOE age FL TO	ver TOE Aver ge FL age DE Ran TOE	TOE Aver T FL age Ran TOE F	TOE Aver TO FL age F Ran TOE Ra	DE Aver TOE L age FL an TOE Ran	Aver TOE age FL TOE Ran	University								
University	High-Value	2022-23	TOEFL Range 2022-23	FL Ran 202 ge 1-22 202 1-22	FL Ran F 202 ge (H 0-21 A	G (KG (KG FP SP SP PP App App	ge FL (KG (KG (SP SP : App App A	ge FL g (KG (KG (K SP SP SI App App Ap	e FL ge G (KG (KG P SP SP pp App App	FL ge (KG (KG SP SP App App	Published Minimum 2022–23	Belo v 500	500-550	560-600	610-650	660-700	710-750	760-800	
Boston University		107	102-111	105 99-113	109 104-11; 1	08 100-119 104	94-113 101 9	4-110 104 96-	112 105 92 - 114	103 89 - 110	90-100 recommended (20 in each sub-	Do Not Apply	Do Not Apply	Reach (High)	Target/Reach	Target	Target/Reliable	Reliable	\neg
Brown University		#N/A	#N/A		111 109-11: 1	17 117-11 N/A	N/A 113 11	13-113 N/A N	IA 111 111-11	114 114 - 114	100 recommended	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Always Reach	Always Reach	
California Institute of Technolo	pgy	#N/A	#N/A			N/A	N/A N/A	N/A N/A N	A N/A N/A	N/A N/A	110 recommended	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Always Reach	Always Reach	
California Polytechnic State Ur	Iniversity, San Luis Obispo	#N/A	#N/A	100 98-103	108 104-11; 1	06 106-101 N/A	N/A 110 10	8-112 105 99-	118 107 02 - 11	96 91-10	80 required	Do Not Apply	Do Not Apply	Do Not Apply	Reach	Target/Reach	Target	Reliable	
Carnegie Mellon University		#N/A	#N/A	116 116-116	114 112-116 1	16 114-11 N/A	N/A N/A	N/A 101 101-	-10 N/A N/A	100 00 - 10	102 required (25 in each sub-	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Always Reach	Always Reach	
Case Western Reserve Univers	sity	#N/A	#N/A	109 96-117	106 99-110 1	09 98-116 103	100-115 115 11	15-115 N/A N	A N/A N/A	100 00-10		Do Not Apply	Do Not Apply	Do Not Apply	Reach	Target/Reach	Target	Reliable	
College of William and Mary		#N/A	#N/A		110 110-110 1	17 117-117 100	100-101 N/A	N/A N/A N	A N/A N/A	N/A N/A	100 recommended	Do Not Apply	Do Not Apply	Do Not Apply	Reach (High)	Reach	Target/Reach	Target	
Colorado School of Mines		102	94-109	102 90-110	100 88-110 9	9 86-108 100	96-105 96 8	6-117 94 82-	105 N/A N/A	N/A N/A	79 required (Reading: 20,	Do Not Apply	Reach (High)	Reach	Target	Target/Reliable	Reliable	Reliable	
Columbia University		106	100-115	111 110-113	108 102-11; 1	07 107-10 N/A	N/A N/A	N/A N/A N	A N/A N/A	113 13 - 11	105 required	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Always Reach	Always Reach	
Cornell University		#N/A	#N/A	112 112-112	109 107-110 1	05 104-10: 102	102-10: N/A	N/A N/A N	A N/A N/A	113 13 - 11	100 required	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Always Reach	Always Reach	
Dartmouth College		#N/A	#N/A			N/A	N/A N/A	N/A N/A N	A N/A N/A	N/A N/A	100 recommended	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Always Reach	Always Reach	
Duke University		#N/A	#N/A		109 09-109	N/A	N/A N/A	N/A N/A N	A N/A N/A	N/A N/A	100 recommended	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Always Reach	Always Reach	
Emory University		#N/A	#N/A	113 113-113	106 06-10 1	13 111-117 110	106-11: 103 10	0-10 111 104	-110 109 07 - 11	N/A N/A	100 required	Do Not Apply	Do Not Apply	Do Not Apply	Reach (High)	Reach (High)	Reach	Target/Reach	
George Washington University	,	103	100-105	106 96-111	1	04 98-105 107	100-115 102 95	5-108 103 93-	118 103 00 - 10	103 03 - 10	90 required	Do Not Apply	Do Not Apply	Do Not Apply	Reach	Target/Reach	Target	Target/Reliable	
Georgetown University		#N/A	#N/A			N/A	N/A N/A	N/A N/A N	A N/A N/A	N/A N/A	100 recommended	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Always Reach	Always Reach	
Georgia Institute of Technolog	39	104	99-107	110 109-11	113 113-113 1	07 104-112 113	113-113 104 9	6-115 N/A N	A 103 03 - 10	N/A N/A	79 recommended	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Always Reach	Always Reach	
Harvard University		#N/A	#N/A			N/A	N/A N/A	N/A N/A N	A N/A N/A	N/A N/A	100 recommended	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Always Reach	Always Reach	
Harvey Mudd College		#N/A	#N/A		1	07 107-10 102	101-102 117 11	17-111 102 1 02-	-10: N/A N/A	N/A N/A	100 required	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Always Reach	Always Reach	
low a State University of Science	ce and Technology	#N/A	#N/A			0 86-93 88	77-98 86 7	3-96 N/A N	A 88 71-103	85 68-96	71 required (Speaking & Writing:	Reach	Target/Reach	Target	Reliable	Reliable	Reliable	Reliable	
Johns Hopkins University		107	107-107		1	15 115-115 112	110-113 N/A	O N/A N	A 109 09-10	N/A N/A	100 recommended (Reading & Listening:	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Always Reach	Always Reach	
Massachusetts Institute of Tec	chnology	104	100-109	110 105-11	116 116-116 1	10 104-11 107	102-110 N/A	N/A 100 97-	103 109 09 - 10	103 00 - 11	90 required, 100 recommended	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Always Reach	Always Reach	
Michigan State University		94	93-94	99 88-116	97 94-100 9	9 88-113 104	91-112 97 8	6-112 N/A N	A 94 81-112	96 79-108	79 required (17 in each sub-	Reach	Target/Reach	Target	Target/Reliable	Reliable	Reliable	Reliable	
New York University		108	103-112	104 100-112	109 09-10: 1	13 113-113 105	105-10: 102 10	0-10 N/A N	A 109 09-10	N/A N/A	100 recommended	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Always Reach	Always Reach	
North Carolina State University	,	99	86-113	104 93-112	100 85-114 1	00 86-116 103	86-113 96 8	7-110 100 88-	116 99 84 - 114	93 58 - 114	80 required (18 in each sub-	Do Not Apply	Reach (High)	Reach	Target	Target/Reliable	Reliable	Reliable	
Northwestern University		#N/A	#N/A	112 112-112	107 07-10 1	15 115-115 N/A	N/A 104 9	7-110 N/A N	A 114 114 - 11	N/A N/A	100 recommended	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Always Reach	Always Reach	
Oberlin College		#N/A	#N/A	116 113-119							79 required								\neg
Occidental College		#N/A	#N/A	103 103-103							80 required (16 in each sub-								\neg
Ohio State University		104	93-112	107 103-11	109 102-110 1	05 79-116 102	94-110 99 92	2-106 N/A N	A 98 90-107	N/A N/A	79 required	Do Not Apply	Do Not Apply	Reach (High)	Reach	Target	Target	Target/Reliable	
Oregon State University - Corv	vallis	#N/A	#N/A	90 90-90	94 88-100 3	0 79-10 100	97-106 97 8	6-112 N/A N	A 103 103-10	N/A N/A	80 required (16 in each sub-	Reach	Target/Reach	Target	Target/Reliable	Reliable	Reliable	Reliable	
Pennsylvania State University	-University Park Campus	101	86-115	104 88-113	107 88-115 3	18 79-113 104	91-112 100 8	4-116 97 82-	116 97 31-106	N/A N/A	80 required	Reach (High)	Reach	Target	Target/Reliable	Reliable	Reliable	Reliable	
Pomona College		#N/A	#N/A	103 103-10	113 113-113 1	12 112-112 108	108-10: N/A	N/A N/A N	A N/A N/A	N/A N/A	100 required	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Always Reach	Always Reach	Always Reach	
Princeton University		107	107-107			N/A	N/A 0	O N/A N	A N/A N/A	N/A N/A	100 recommended	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Always Reach	Always Reach	
Purdue University		107	98-115	109 100-11	108 88-116 1	08 97-118 104	91-113 104 9	4-117 106 97-	118 104 85 - 114	102 91-114	88 required (20 in each sub-	Do Not Apply	Do Not Apply	Reach (High)	Reach	Target	Target/Reliable	Target/Reliable	
Rensselaer Polytechnic Institu	ute	#N/A	#N/A	105 93-113	102 85-114 1	01 88-116 105	94-115 101 93	2-110 104 93-	116 101 90 - 114	100 84 - 100	88 required	Do Not Apply	Do Not Apply	Do Not Apply	Reach (High)	Reach	Target/Reach	Target	
Rice University		#N/A	#N/A	110 110-110		N/A	N/A 0	O N/A N	A N/A N/A	N/A N/A	100 required	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Do Not Apply	Always Reach	Always Reach	
< >	Using the Ma	atrix - Instructio	ons Matrix	x_Update	d July 2	023	AY 22-2	3 Applio	ation Nu	umbers	AY 23-	24 HV Universi	ties Placem	ent Report_06.	30.23	+		: •	











All approved universities with likelihood of admission

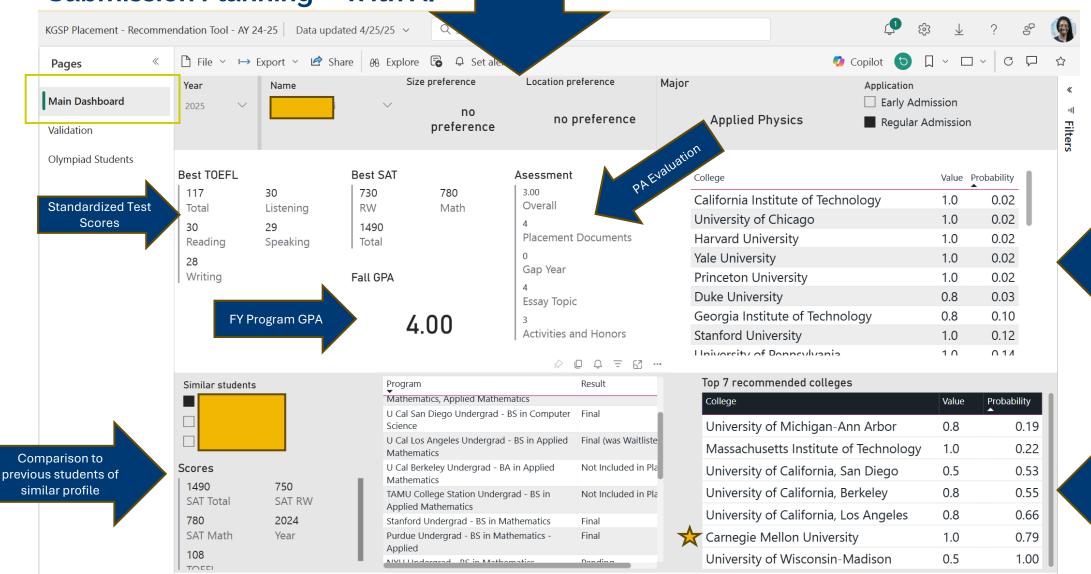
Recommended Sub Plan with likelihood of admission





Submission Planning – With AI

Student Preferences



All approved universities with likelihood of admission

Recommended Sub Plan with likelihood of admission





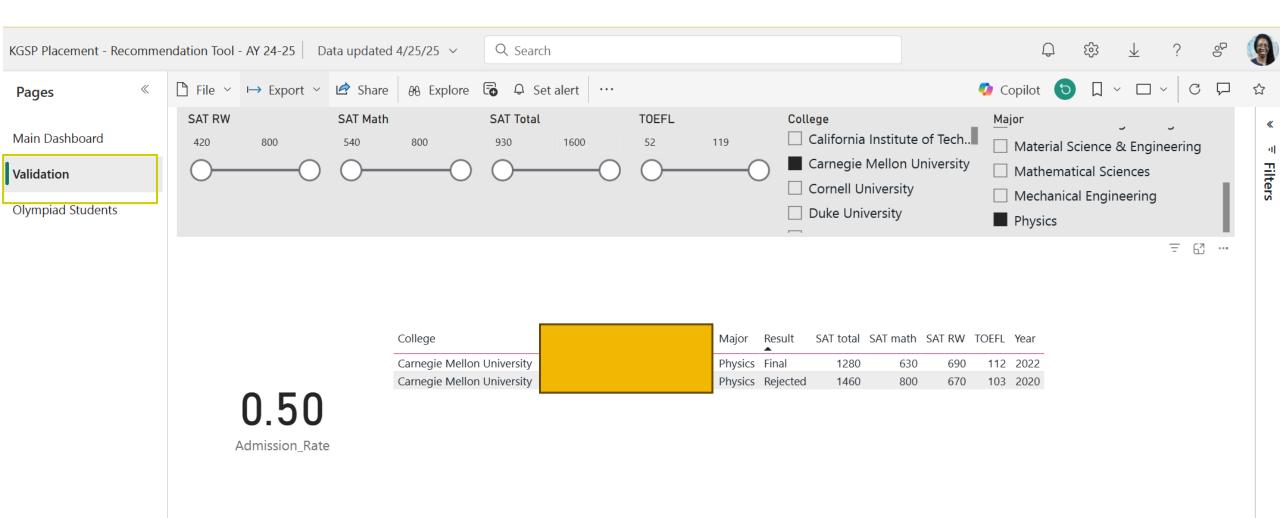
Submission Planning – With AI

Account ~	Preference Ranking Y	Submission Status Y	Admission Sta	atus Y Placement Status Y		
CalTech Undergrad - BS in		Submitted	Final	Placed		
Columbia Undergrad - BS i		Not Included in Plan	Not Include	Tan 7 recommended colleges		
Georgia Tech Undergrad		Submitted	Final	Top 7 recommended colleges College	Value	Probability
Harvard Undergrad - AB in		Submitted	Rejected	·		
MIT Undergrad - BS in Phy		Submitted	Rejected	University of Michigan-Ann Arbor	0.8	0.19
Princeton Undergrad - BA		Submitted	Rejected	Massachusetts Institute of Technology	1.0	0.22
Stanford Undergrad - BS i		Submitted	Pending	University of California, San Diego	0.5	0.53
U Cal Berkeley Undergrad		Initial Assessment	Pending	University of California, Berkeley	0.8	0.55
U Cal Los Angeles Undergr		Submitted	Final	University of California, Los Angeles	0.8	0.66
U Cal San Diego Undergra		Submitted	Final	Carnegie Mellon University	1.0	0.79
U Illinois Urbana-Champai		Submitted	Final	University of Wisconsin-Madison	0.5	1.00





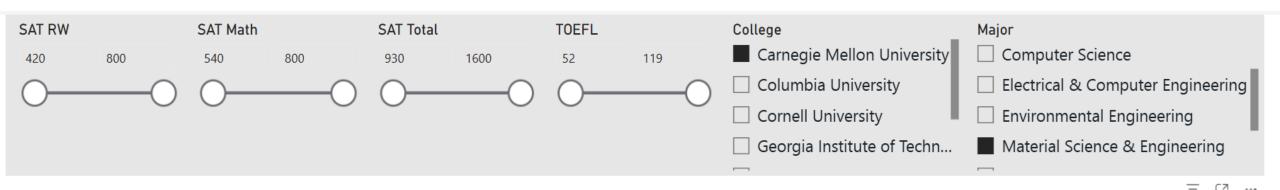
Assessing the Model - Validation







Assessing the Model - Validation



0.17
Admission_Rate

College	Contact	Major	Result	SAT total	SAT math	SAT RW	TOEFL	Year
Carnegie Mellon University		Material Science & Engineering	Final	1490	800	750	117	2020
Carnegie Mellon University		Material Science & Engineering	Rejected	1320	730	620	98	2019
Carnegie Mellon University		Material Science & Engineering	Rejected	1430	790	640	110	2019
Carnegie Mellon University		Material Science & Engineering	Rejected	1370	720	650	106	2019
Carnegie Mellon University		Material Science & Engineering	Rejected	1360	710	670	112	2020
Carnegie Mellon University		Material Science & Engineering	Rejected	1270	700	570	97	2020





QUESTIONS?