

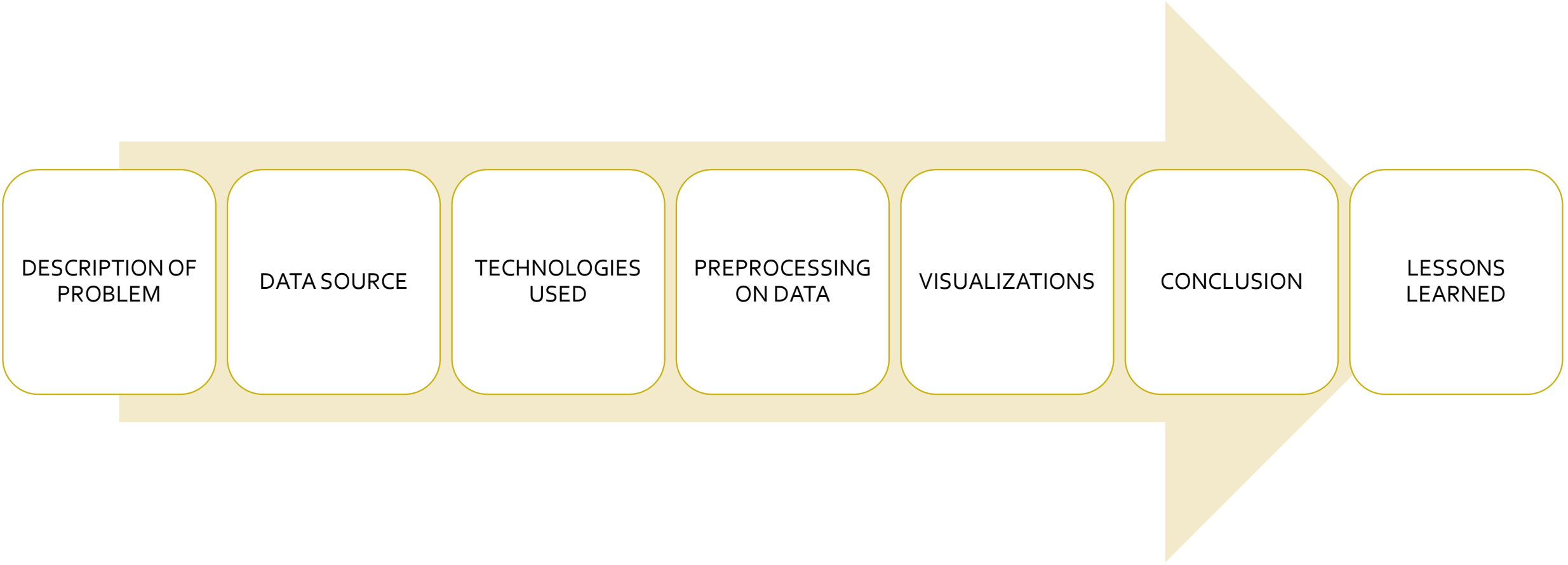
UNIVERSITIES IN ONTARIO

ME8135 FINAL PRESENTATION

HIRA FATIMA

APRIL 11, 2017





DESCRIPTION OF
PROBLEM

DATA SOURCE

TECHNOLOGIES
USED

PREPROCESSING
ON DATA

VISUALIZATIONS

CONCLUSION

LESSONS
LEARNED

OUTLINE

```
graph LR; A[DESCRIPTION OF PROBLEM] --> B[DATA SOURCE]; B --> C[TECHNOLOGIES USED]; C --> D[PREPROCESSING ON DATA]; D --> E[VISUALIZATIONS]; E --> F[CONCLUSION]; F --> G[LESSONS LEARNED];
```

DESCRIPTION OF
PROBLEM

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DATASETS

Source: <https://www.ontario.ca/data/university-enrolment>
Number of Datasets: 12
Time Frame: The data is based on Fall 2012 enrollment



head_count_by_spe
aj_program_fall_12-1



head_count_by_unive
rsity_and_age_group



head_count_by_unive
rsity_and_campus_fall



head_count_by_unive
rsity_and_country_of



head_count_by_unive
rsity_and_forpos_pro



head_count_by_unive
rsity_and_gender_fall



head_count_by_unive
rsity_and_immigratio



head_count_by_unive
rsity_and_level_of_stu



head_count_by_unive
rsity_and_mother_ton



head_count_by_unive
rsity_and_province_of



head_count_by_unive
rsity_and_registration



head_count_by_unive
rsity_and_year_of_stu

DESCRIPTION OF PROBLEM



head_count_by_spemaj_program_fall_12-13

File Home Insert Draw Page Layout Formulas Data Review View Tell me what you want to do

Cut Copy Paste Format Painter Clipboard

Calibri 11 A A Font

Wrap Text Merge & Center Alignment

General \$ % , .0 .00 .0 Number

	A	B
1	PROGRAM	PHEADCOUNT
2	0.00.00 - General Arts and Science	0.96
3	0.00.01 - Interdisciplinary Studies	0.31
4	0.00.02 - General Arts	5
5	0.00.08 - General Science	2.55
6	1.18.00 - Elementary/secondary teacher training	2.07
7	1.23.00 - Higher education, post-secondary teacher training	0.07
8	1.36.00 - Kindergarten, pre-school teacher training	0.14
9	1.38.02 - Education administration	0.02
10	1.38.03 - Education psychology	0.14
11	1.38.05 - Guidance and counselling	0.01
12	1.38.06 - Curriculum specialization	0.11
13	1.38.08 - Education foundations	0.09
14	1.38.99 - Other non-teaching fields	0.35
15	1.39.00 - Physical education	0.81
16	1.40.00 - Kinesiology, human kinetics and kinanthropology	2.38
17	1.41.00 - Recreation	0.38
18	2.03.00 - Fine art	0.8
19	2.05.00 - Music	0.84
20	2.08.00 - Other performing arts	0.62
21	2.14.01 - Industrial design	0.07
22	2.14.99 - Other applied arts	1.67

head_count_by_spemaj_program_fa

Ready



head_count_by_university_and_cam

File Home Insert Draw Page Layout Formulas Data Review View Tell me what you want to do				
Clipboard		Font		Number
Cut Copy Paste Format Painter		Calibri 11 A A B I U		General
		Merge & Center		\$ % , .0
	A	B	C	D
1	UNIVERSITY	CAMPUS	HEADCOUNT	
2	Algoma	Algoma University	1,106	
3	Brock	Brock College of Education	325	
4	Brock	Brock University	15,198	
5	Brock	Brock University - Hamilton Campus	331	
6	Carleton	Carleton University	22,436	
7	Guelph	Kemptville College	201	
8	Guelph	Ridgetown College	468	
9	Guelph	University of Guelph	20,829	
10	Guelph	University of Guelph - Humber Campus	3,422	
11	Lakehead	Lakehead University	5,986	
12	Lakehead	Lakehead University - Orillia Campus	1,114	
13	Laurentian	Laurentian University	5,756	
14	Laurentian	Laurentian University - Off Campus Centres	926	
15	Laurentian	Le collège universitaire de Hearst	69	
16	McMaster	McMaster Divinity College	54	
17	McMaster	McMaster Nursing at Conestoga	438	
18	McMaster	McMaster Nursing at Mohawk	578	
19	McMaster	McMaster University	24,723	
20	Nipissing	Nipissing University	3,616	
21	Nipissing	Nipissing University - Bracebridge Campus	128	
22	Nipissing	Nipissing University - Brantford Campus	22	

head_count_by_university_and_ca

Ready

DESCRIPTION OF
PROBLEM

DATA SOURCE

TECHNOLOGIES
USED

PREPROCESSING
ON DATA

VISUALIZATIONS

CONCLUSION

LESSONS
LEARNED

OUTLINE

DATA SOURCE

[Data catalogue](#) → University enrolment

University enrolment

Enrolment and Statistical data for universities in the province that receive regular operating funding from the Ministry of Training, Colleges and Universities.

Data from the Ministry of Training, Colleges and Universities' College Enrolment Statistical Reporting system.

Provides aggregated key enrolment data for university students, such as:

- enrolment headcounts by program type, institution and campus
- enrolment by student status (e.g., domestic, international, citizenship) by institution
- enrolment by prior education activity and level of study by institution
- enrolment by credentials pursued/registration status
- student characteristics (e.g., gender, age, first language)
- student status by institution by province, country of residence.

Data is based on the fall 2012 enrolment report. To protect privacy, numbers are suppressed in categories with less than 10 students.

DATA SOURCE

Data is based on the fall 2012 enrolment report. To protect privacy, numbers are suppressed in categories with less than 10 students.

Download data

Head Count by SPEMAJ
Program Fall 12-13 | CSV

[CSV](#)

Head Count by University
and Province of Residence
Fall 12-13 | CSV

[CSV](#)

Head Count by University
and Age Group Fall 12-
13 | CSV

[CSV](#)

Head Count by University
and Campus Fall 12-
13 | CSV

[CSV](#)

Head Count by University
and Country of Citizenship
Fall 12-13 | CSV

[CSV](#)

Head Count by University
and FORPOS Program Fall
12-13 | CSV

[CSV](#)

Head Count by University
and Gender Fall 12-13 | CSV

Head Count by University
and Immigration Status Fall

Data description

Data published

April 8, 2014

Publisher

Advanced Education and Skills Development

Time captured

April 9, 2014 - April 9, 2014

Update frequency

Yearly

Geographical coverage

Ontario

DATA
SOURCE

File Name	Fields
Head Count by Program Major	UNIVERSITY, PROGRAMS SPEMAJ, HEAD COUNT
Head Count by Age Group	UNIVERSITY, AGE GROUP, HEAD COUNT
Head Count by Campus	UNIVERSITY, CAMPUS, HEAD COUNT
Head Count by Country of Citizenship	UNIVERSITY, COUNTRY OF CITIZENSHIP, HEAD COUNT
Head Count by Program of Study	UNIVERSITY, PROGRAM FORPOS, HEAD COUNT
Head Count by Gender	UNIVERSITY, GENDER, HEAD COUNT
Head Count by Immigration Status	UNIVERSITY, IMMIGRATION STATUS, HEAD COUNT
Head Count by Level of Study	UNIVERSITY, LEVEL OF STUDY, HEAD COUNT
Head Count by Mother Tongue	UNIVERSITY, MOTHER TONGUE, HEAD COUNT
Head Count by Province of Residence	UNIVERSITY, PROVINCE OF RESIDENCE, HEAD COUNT
Head Count by Registration Status	UNIVERSITY, REGISTRATION STATUS, HEAD COUNT
Head Count by Year of Study	UNIVERSITY, YEAR OF STUDY, HEAD COUNT

DESCRIPTION OF
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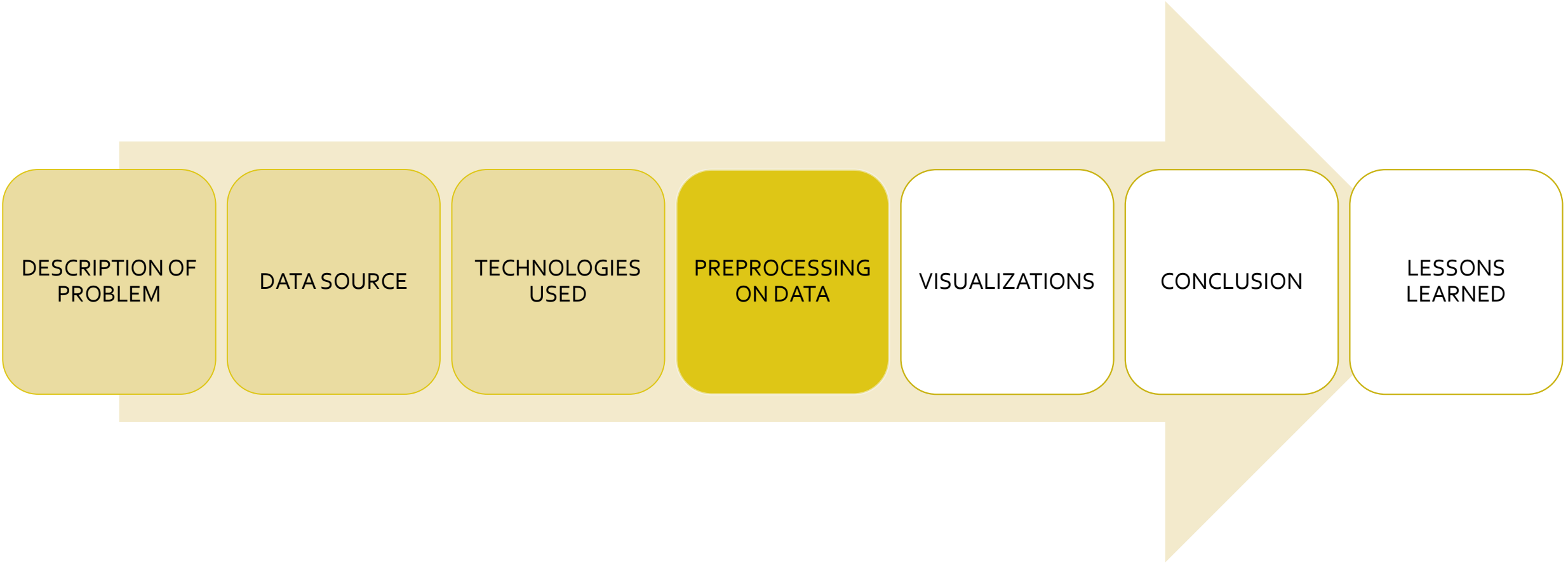


GGPLOT2

RWORLDMAP



TECHNOLOGIES USED



DESCRIPTION OF
PROBLEM

DATA SOURCE

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ON DATA

VISUALIZATIONS

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LEARNED

OUTLINE



PREPROCESSING ON DATA

DESCRIPTION OF
PROBLEM

DATA SOURCE

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ON DATA

VISUALIZATIONS

CONCLUSION

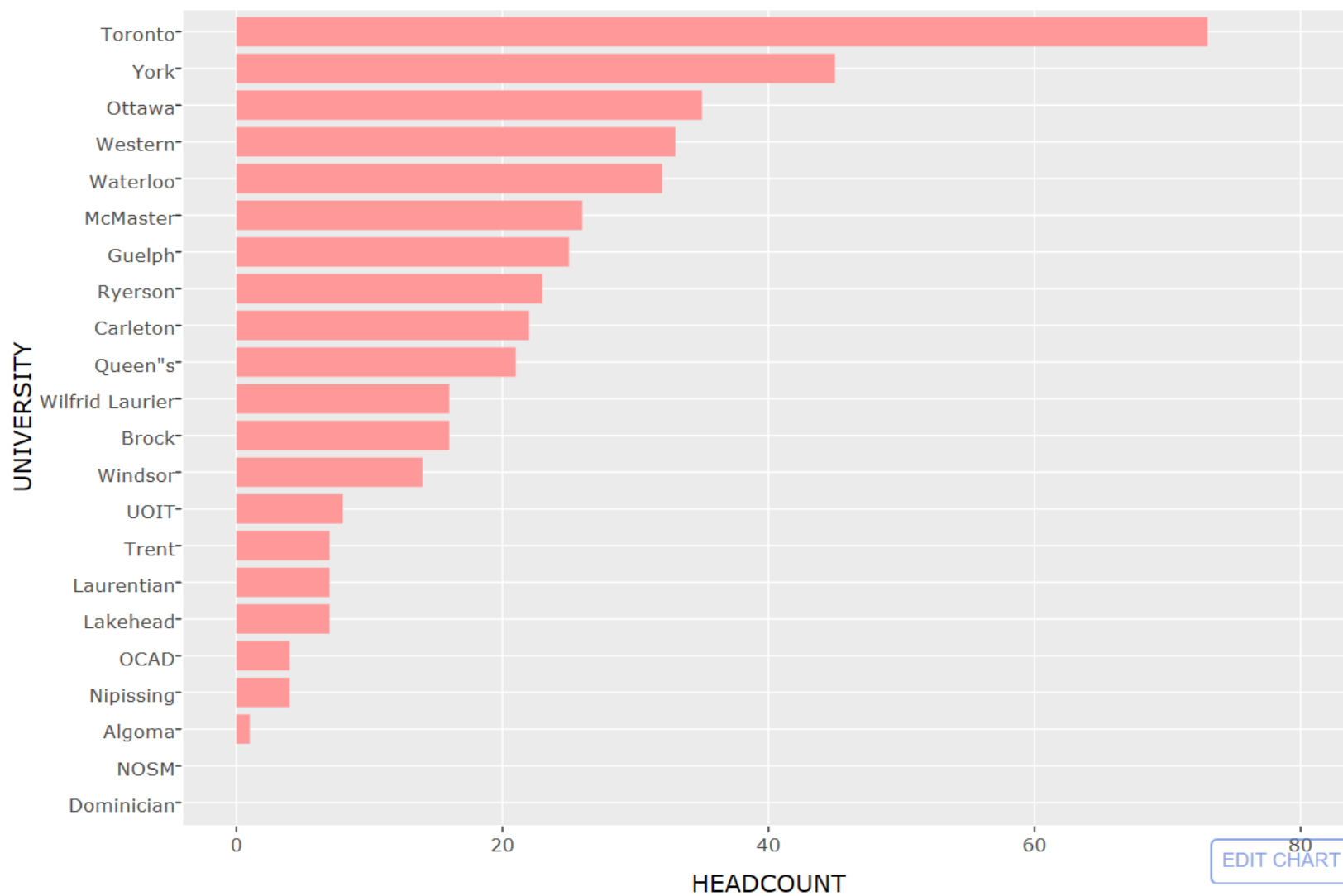
LESSONS
LEARNED

OUTLINE

HEAD COUNT









Head Count for each Univerity in Ontario



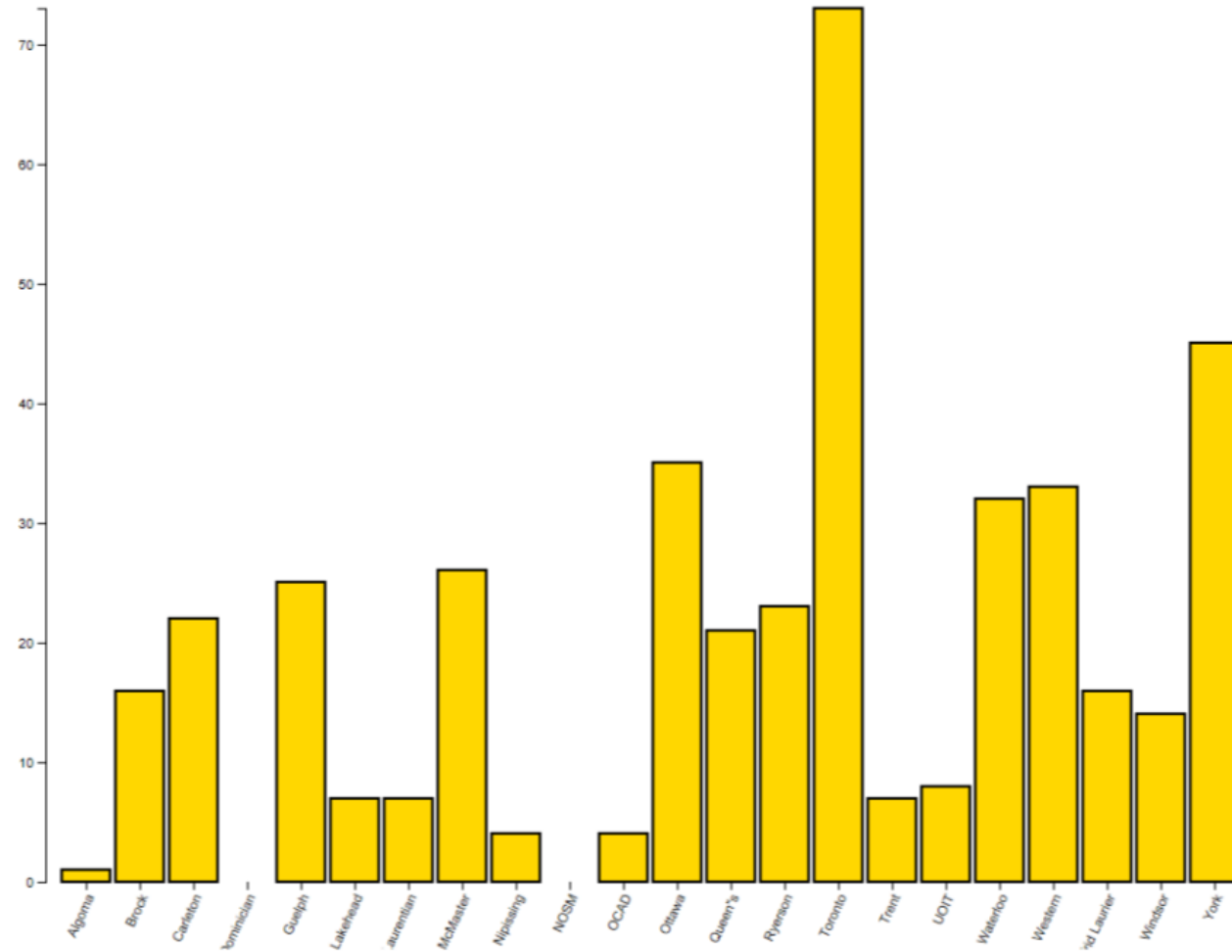
HEAD COUNT

← → ↻ 🏠 | localhost:8000/index.html

 My Ryerson  RyersonGMAIL  PersonalGMAIL  YouTube  SLACK  LinkedIn

Find on page No results < > Options ▾

Total HeadCount of Each University in 1000s

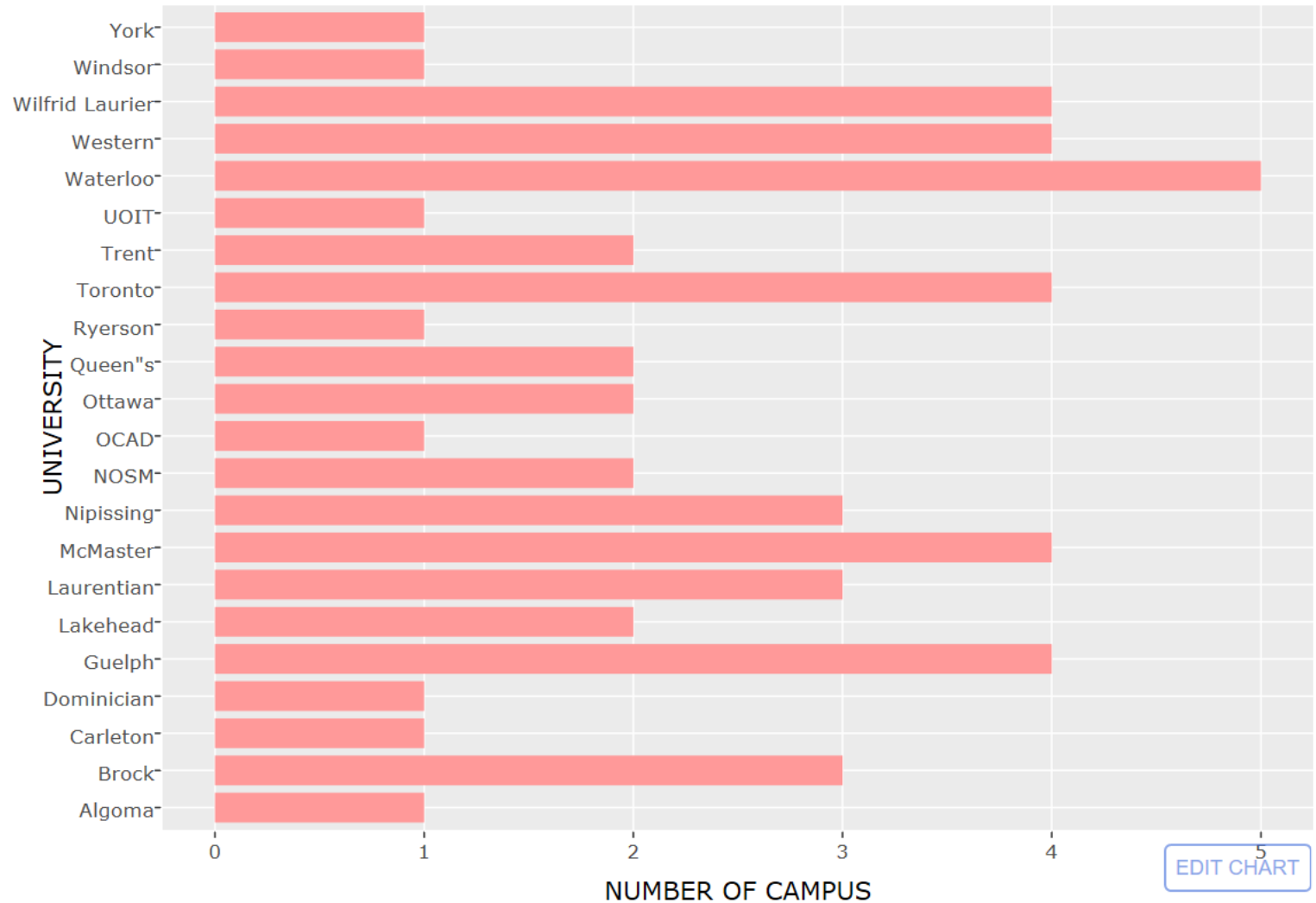


NUMBER OF
CAMPUSES

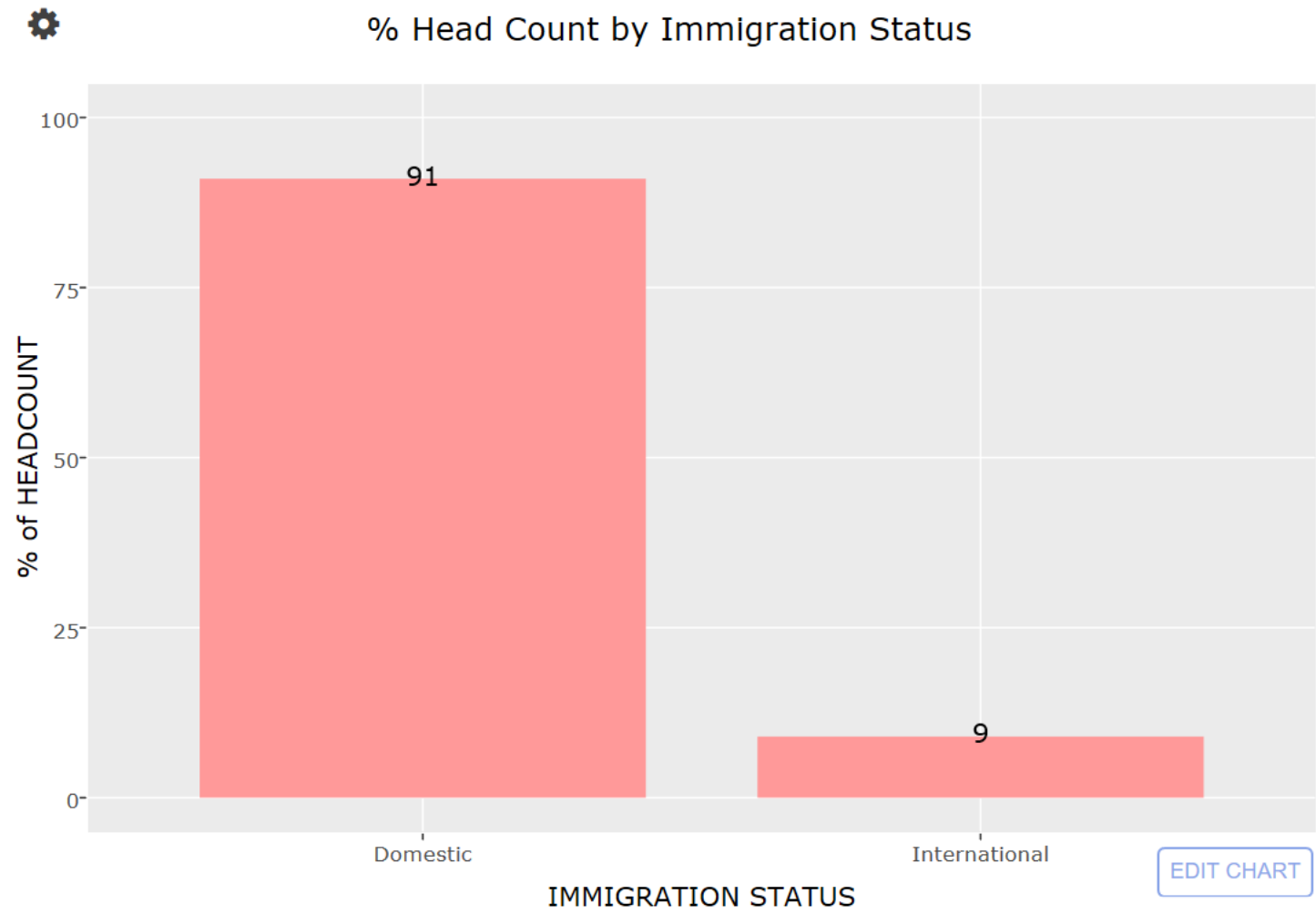
AVERAGE:2.4



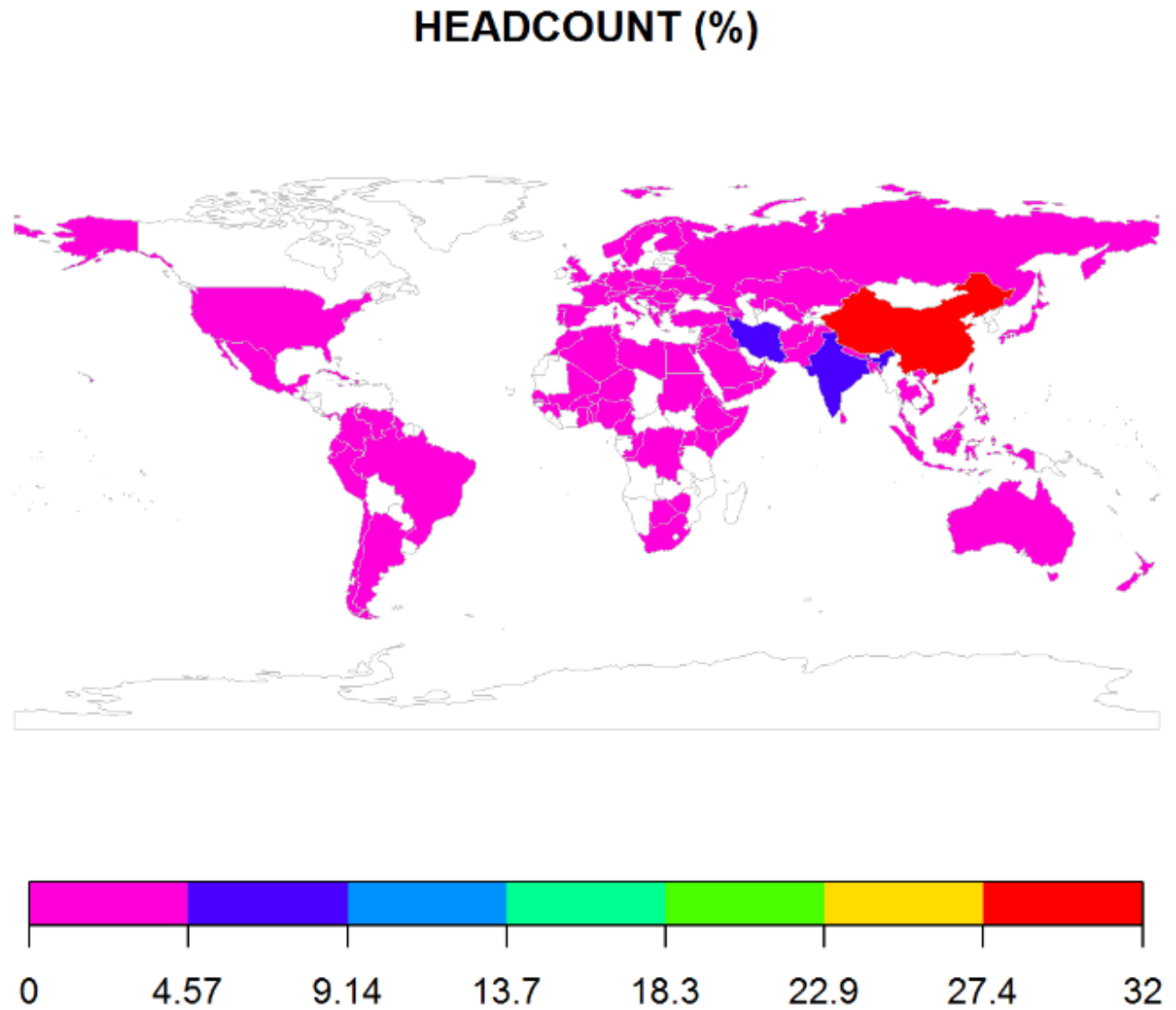
Number of Campuses at each University



IMMIGRATION STATUS



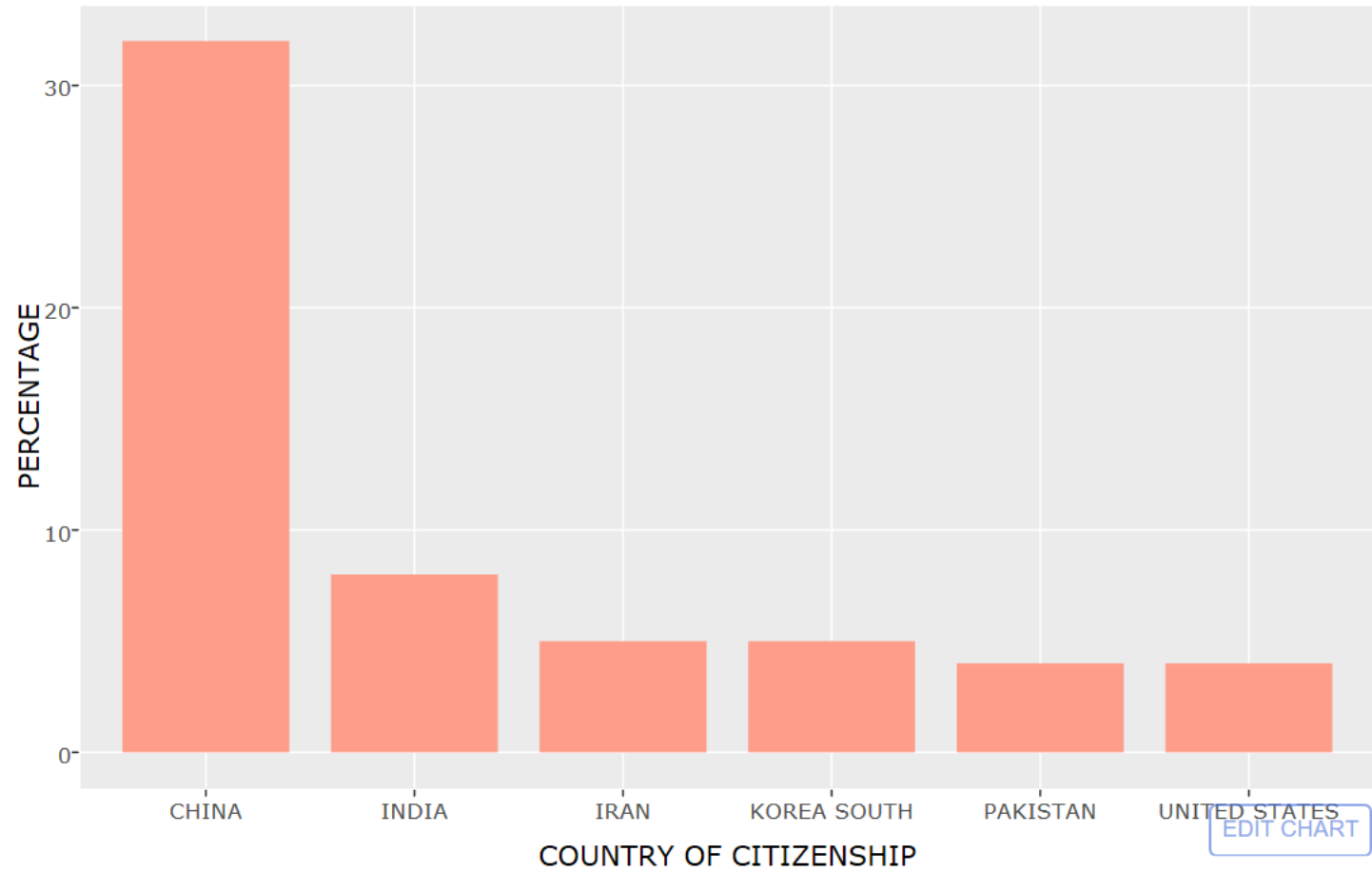
INTERNATIONAL STUDENTS



TOP 10 COUNTRIES



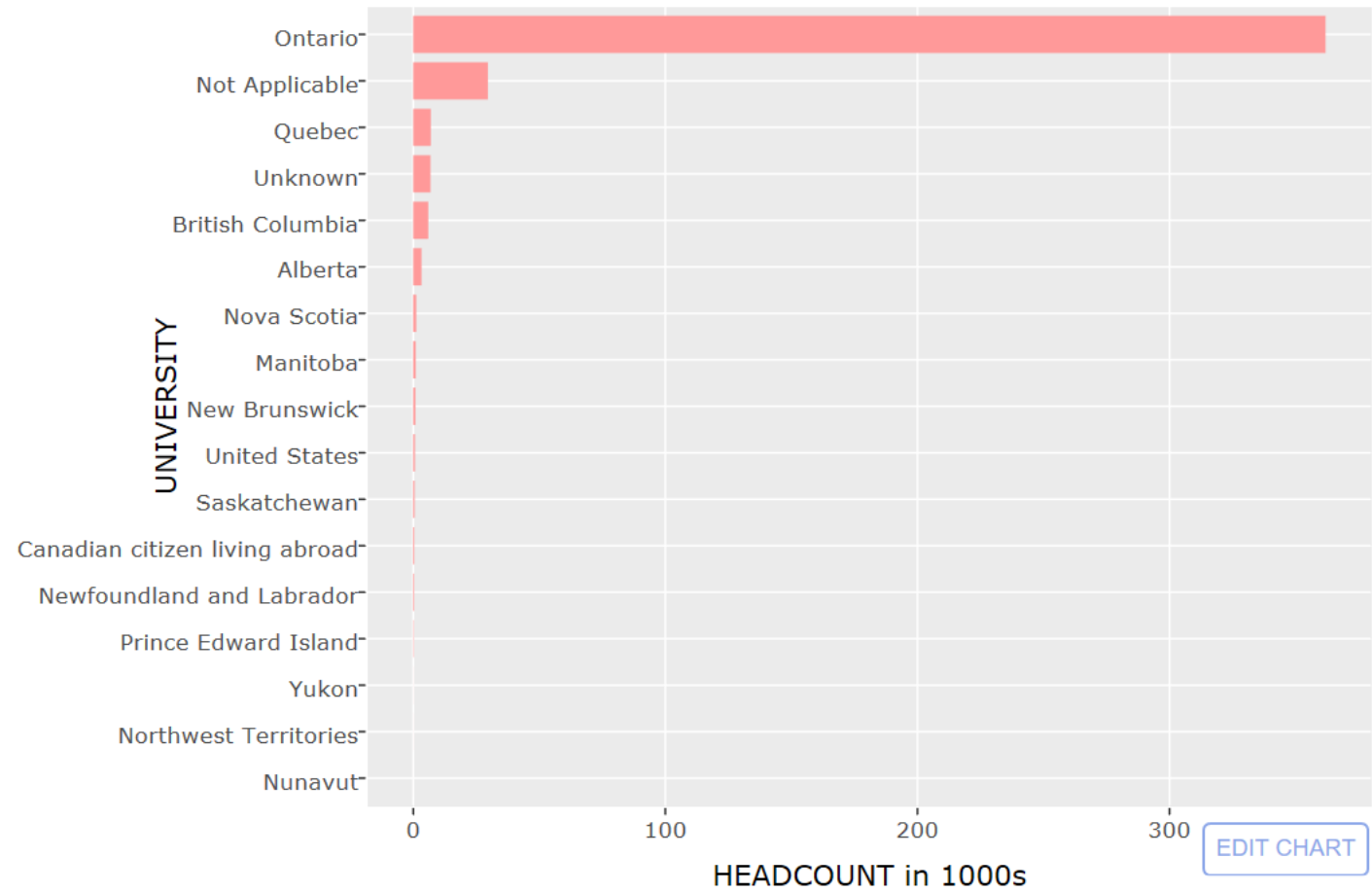
International Student Distribution by Citizenship Country - Top 6



PROVINCE OF RESIDENCE



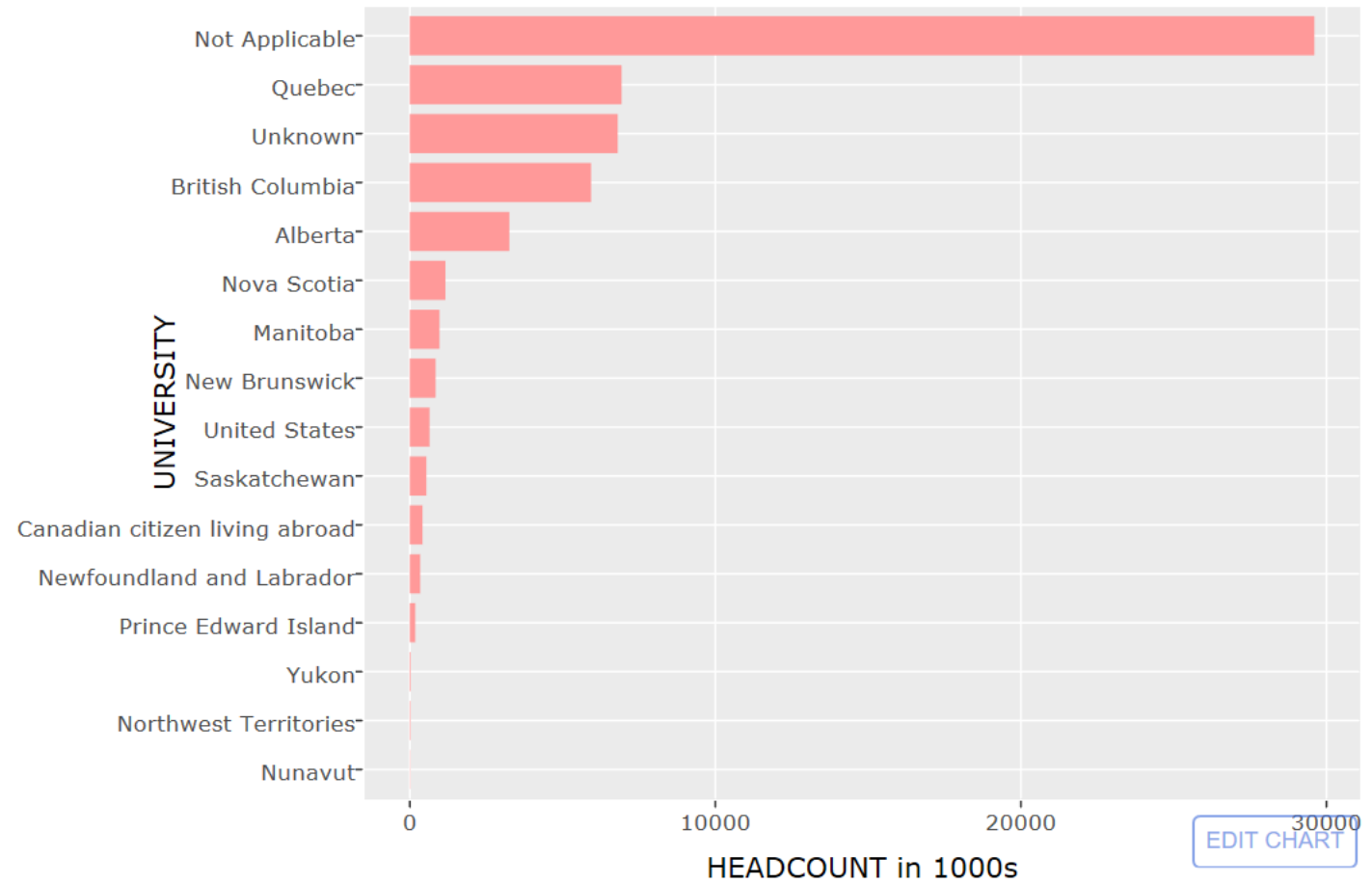
Head Count by Province of Residence (Including Ontario)



PROVINCE OF RESIDENCE



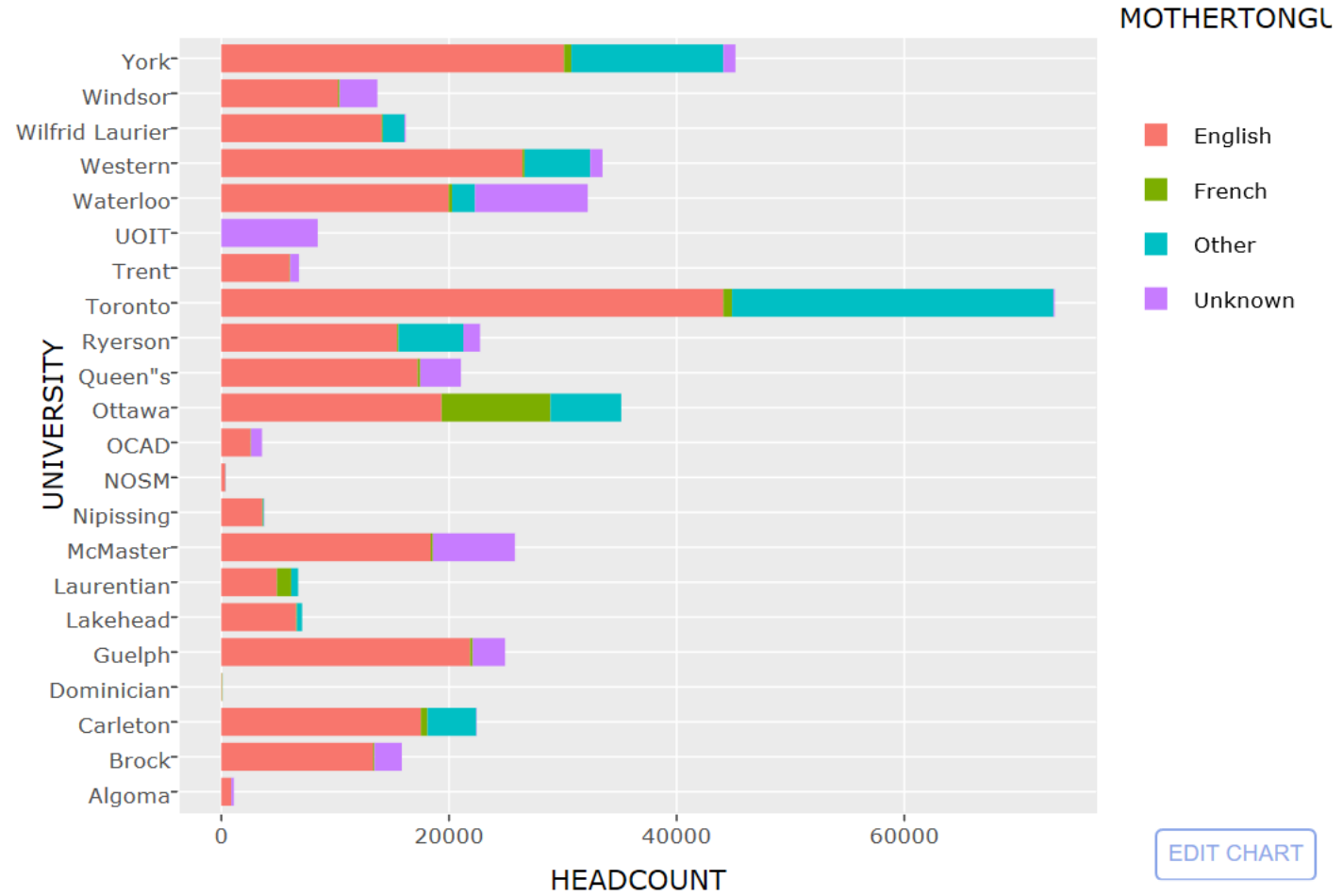
Head Count by Province of Residence (Excluding Ontario)



MOTHER TONGUE



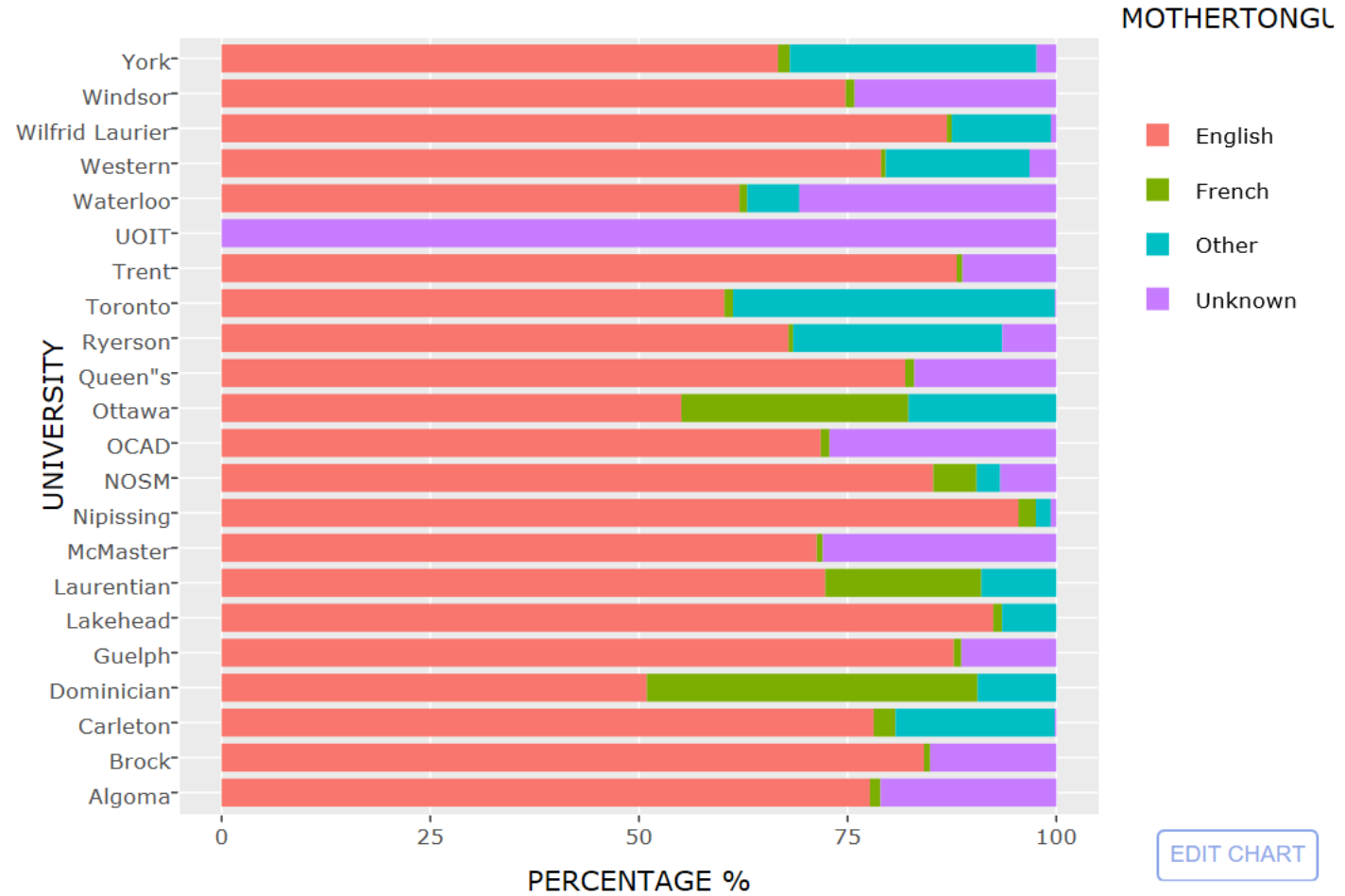
Head Count by Mother Tongue



MOTHER TONGUE NORMALIZED



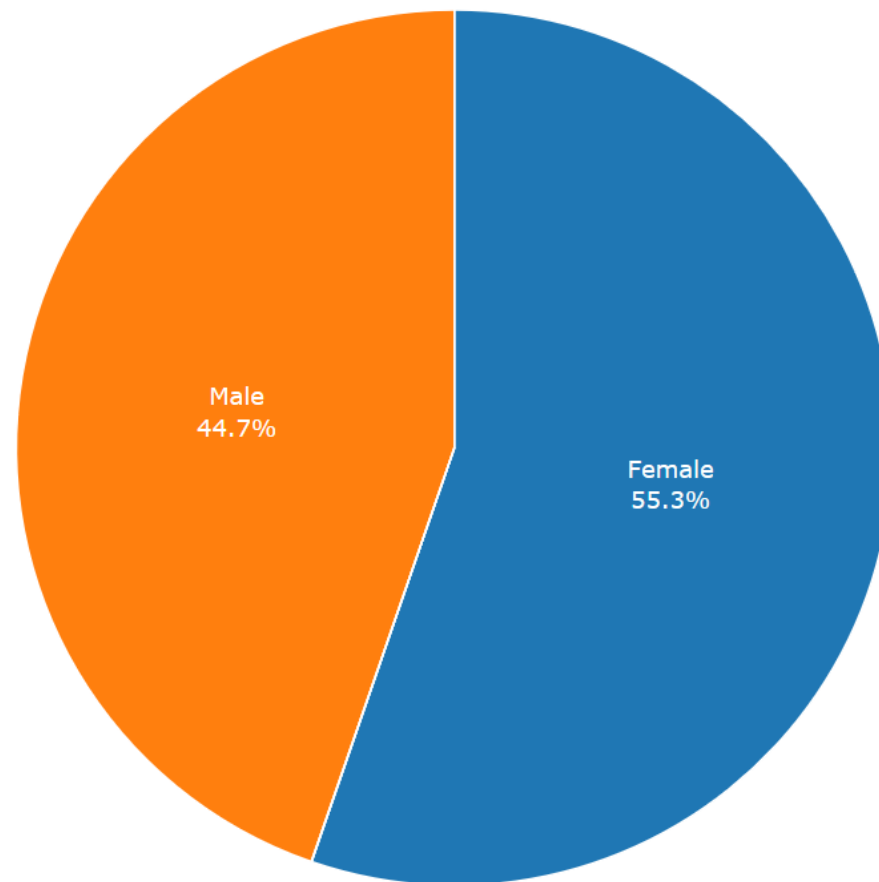
% Head Count by Mother Tongue



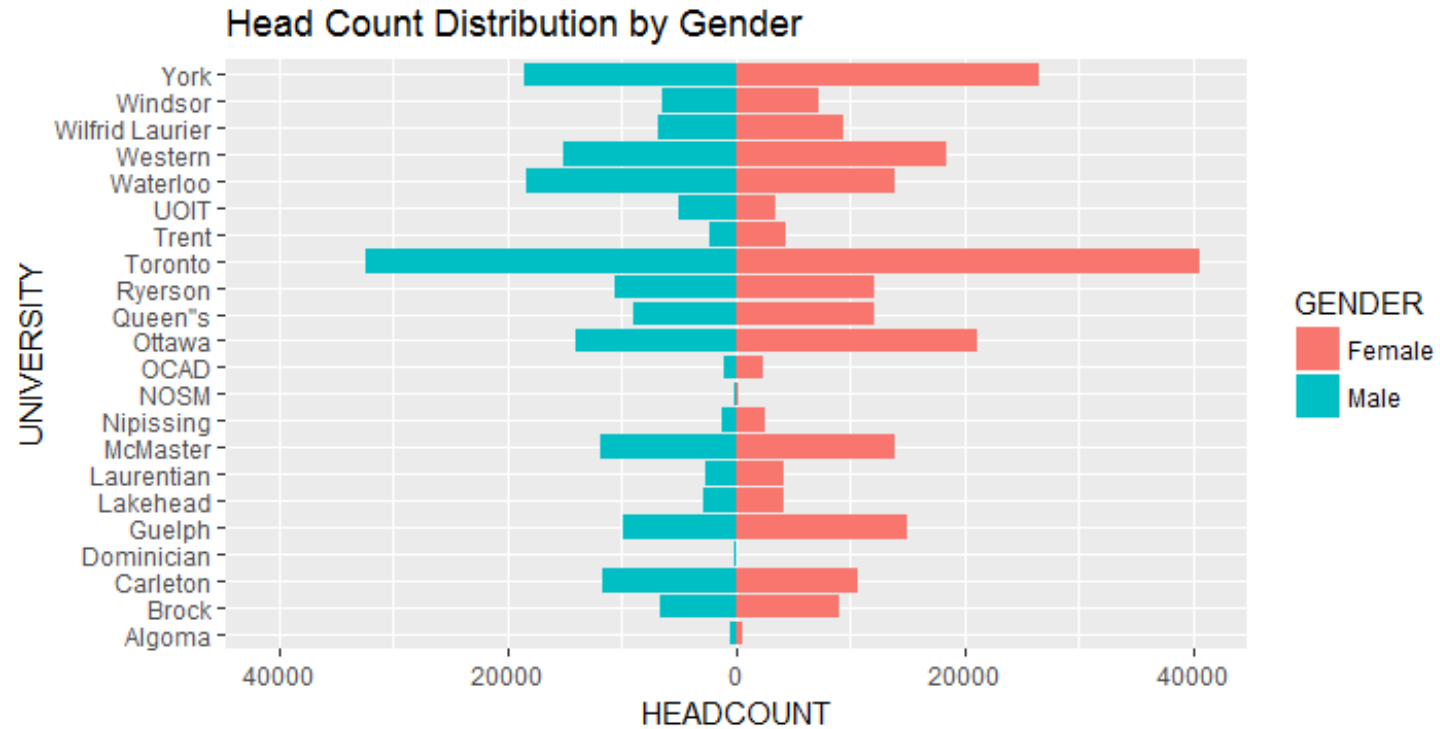
GENDER.



Males vs Females Ratio at Ontario Universities



EDIT CHART

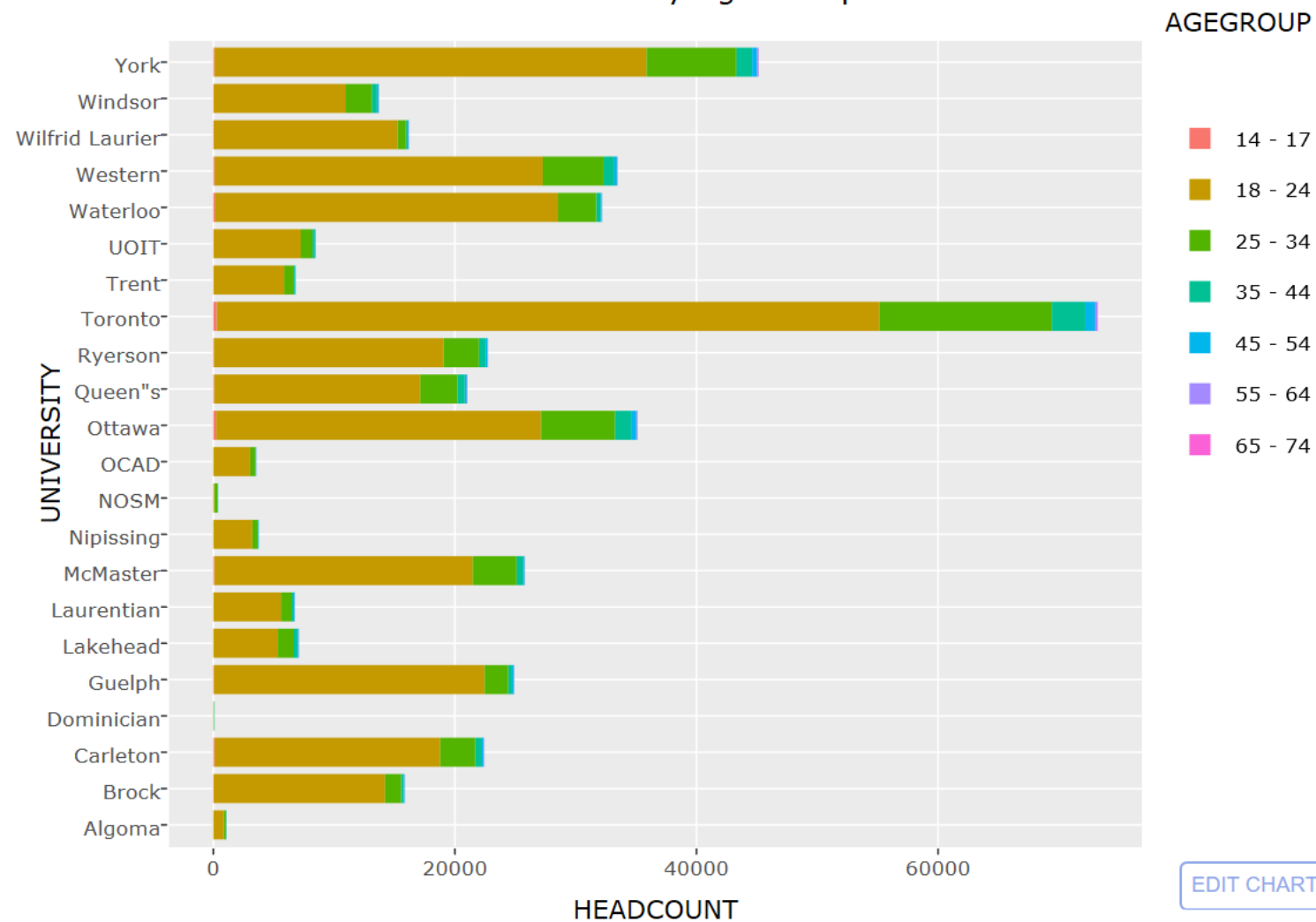


MALES vs. FEMALES

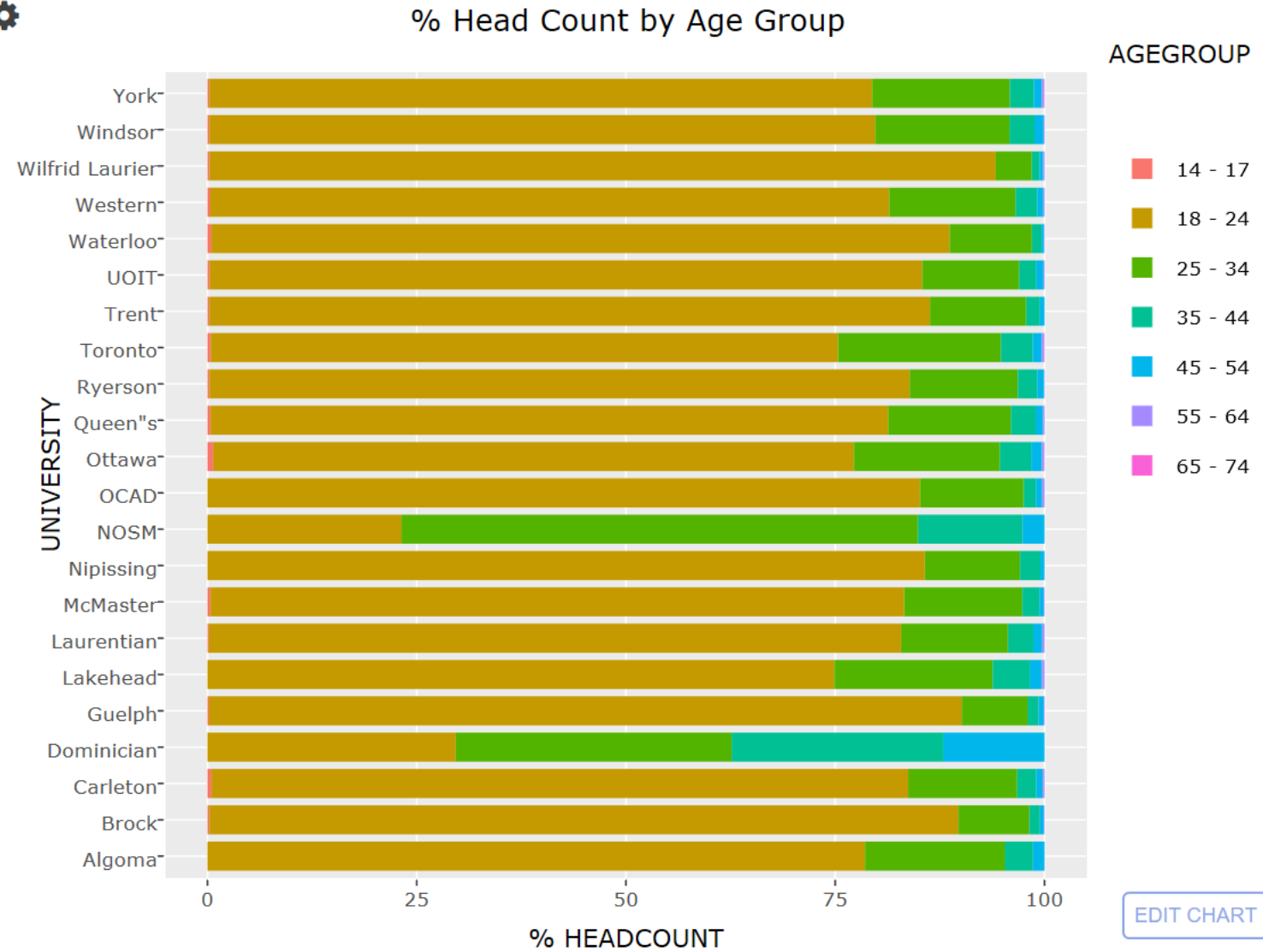
AGE GROUP

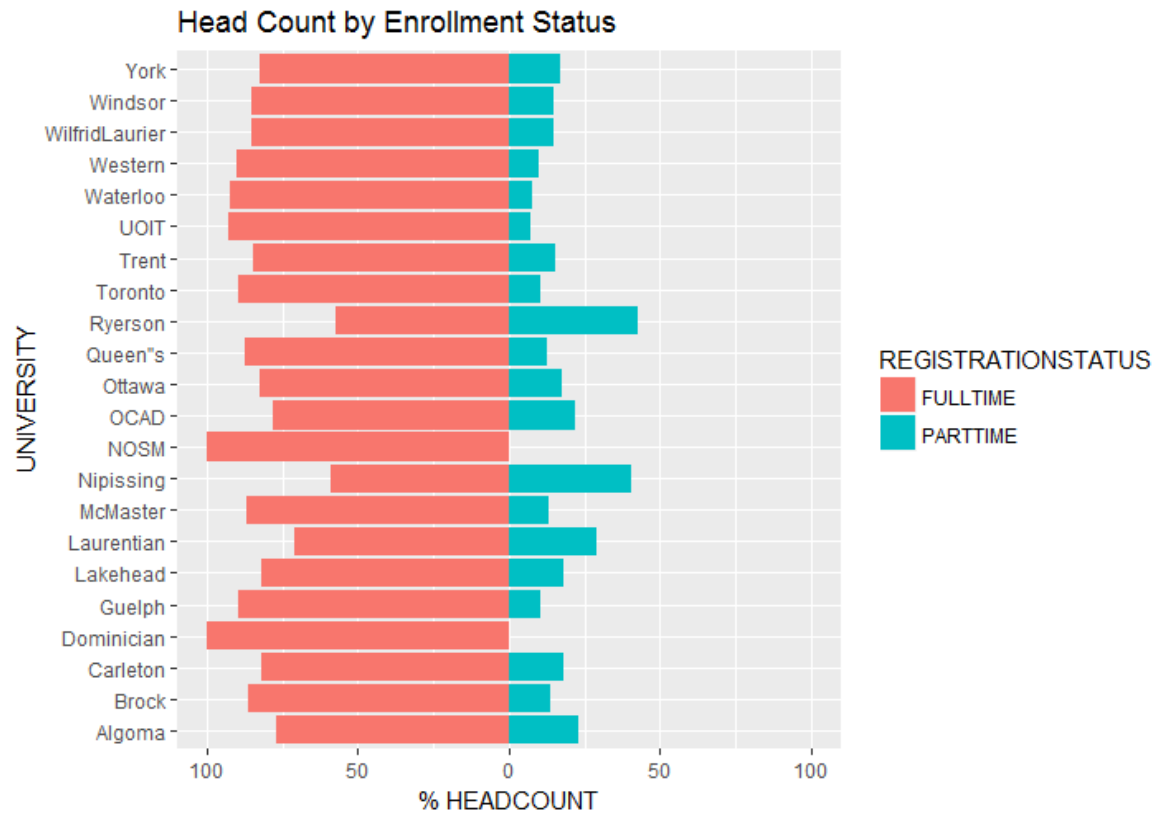


Head Count by Age Group



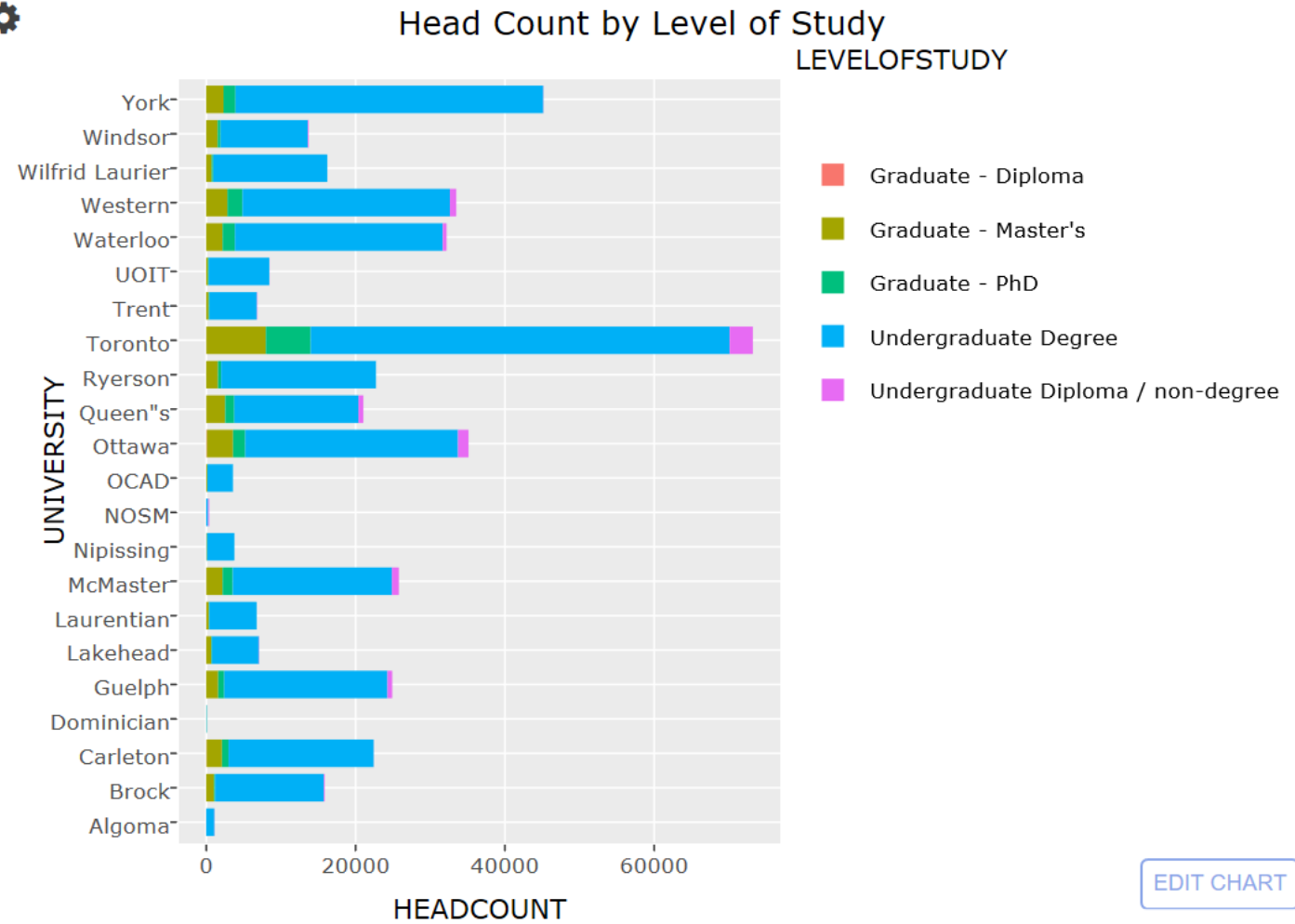
AGE GROUP NORMALIZED



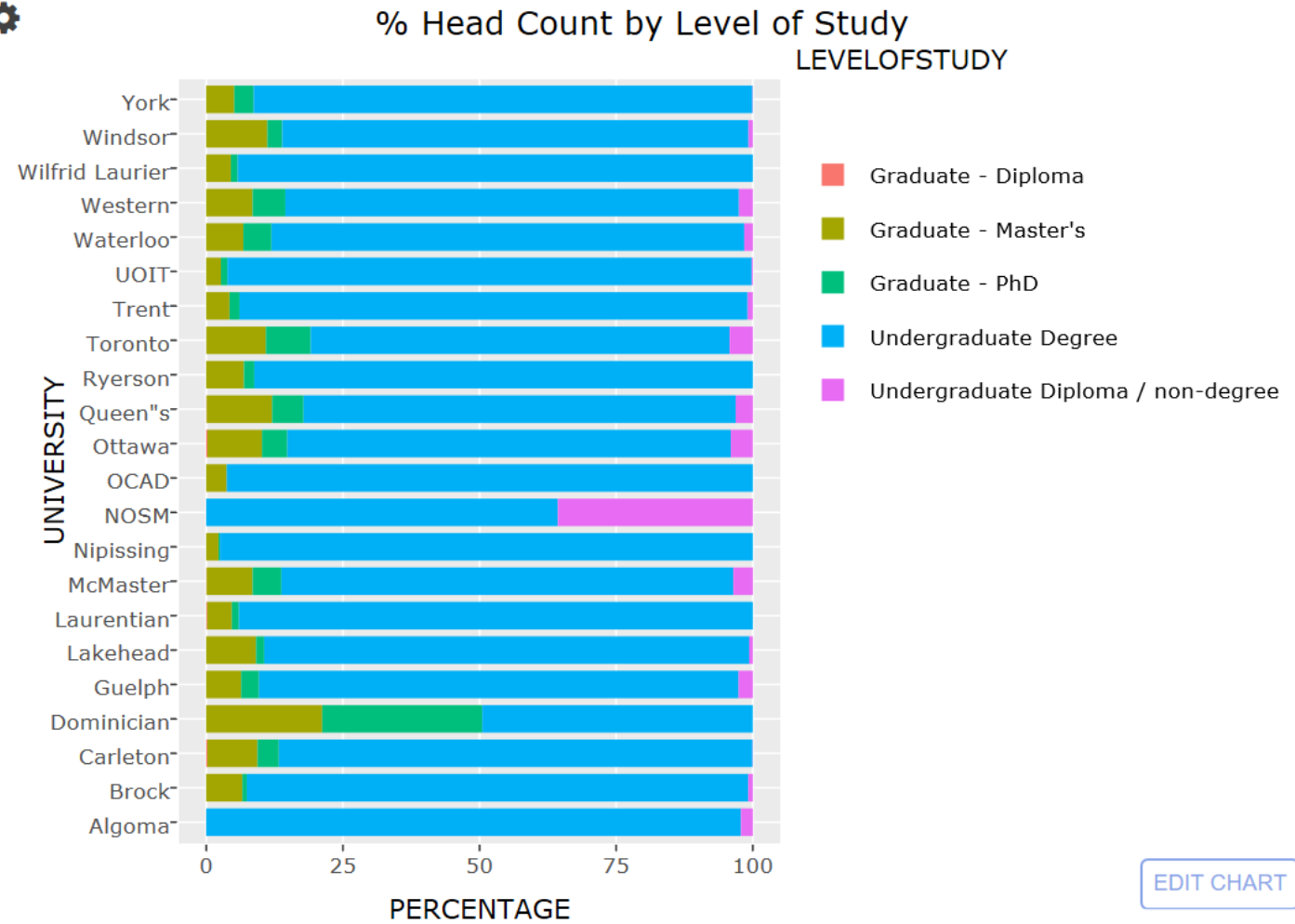


ENROLLMENT STATUS

LEVEL OF STUDY



LEVEL OF STUDY NORMALIZED

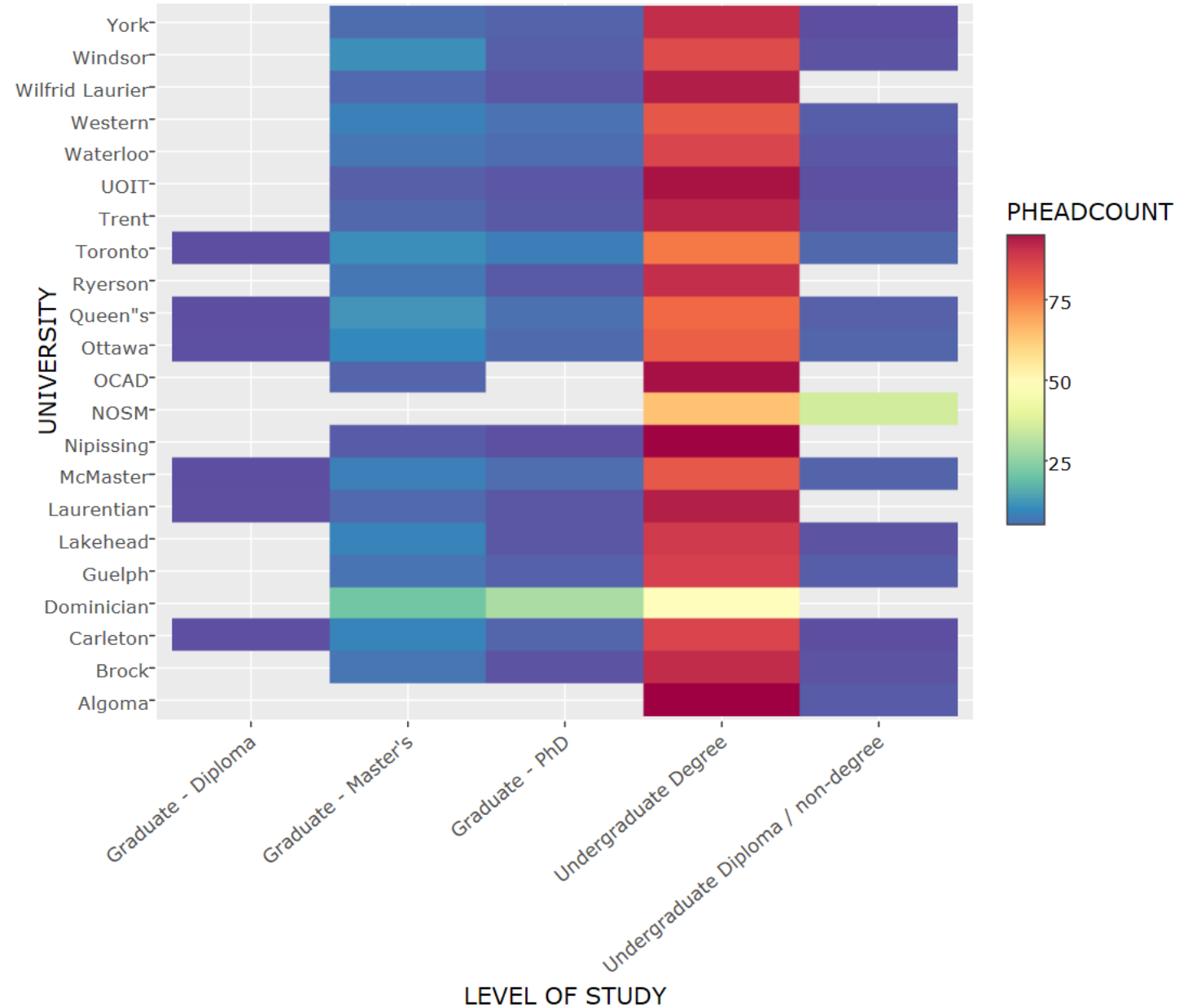


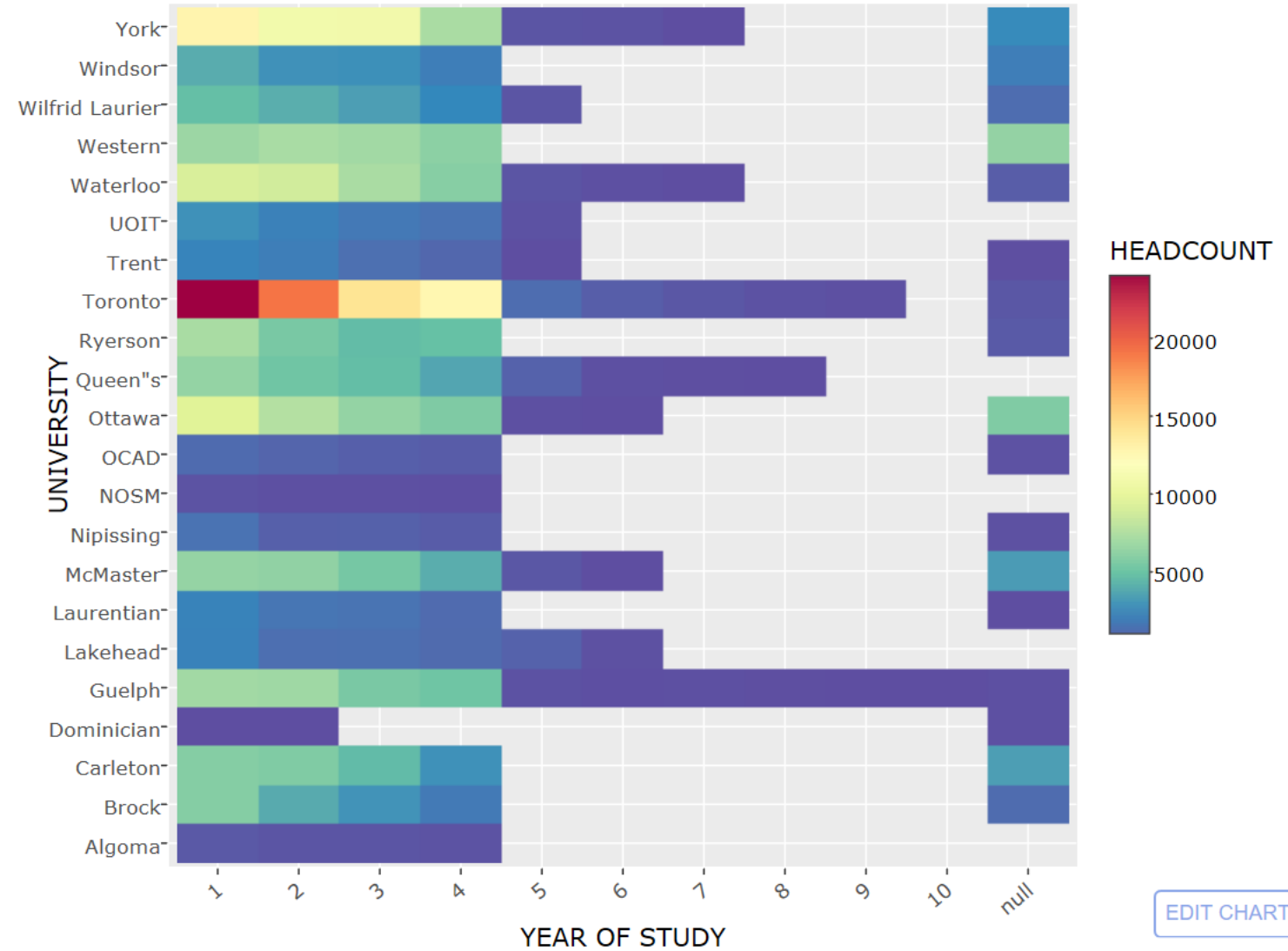
LEVEL OF
STUDY

NORMALIZED
HEATMAP



% Head Count Distribution by Level of Study

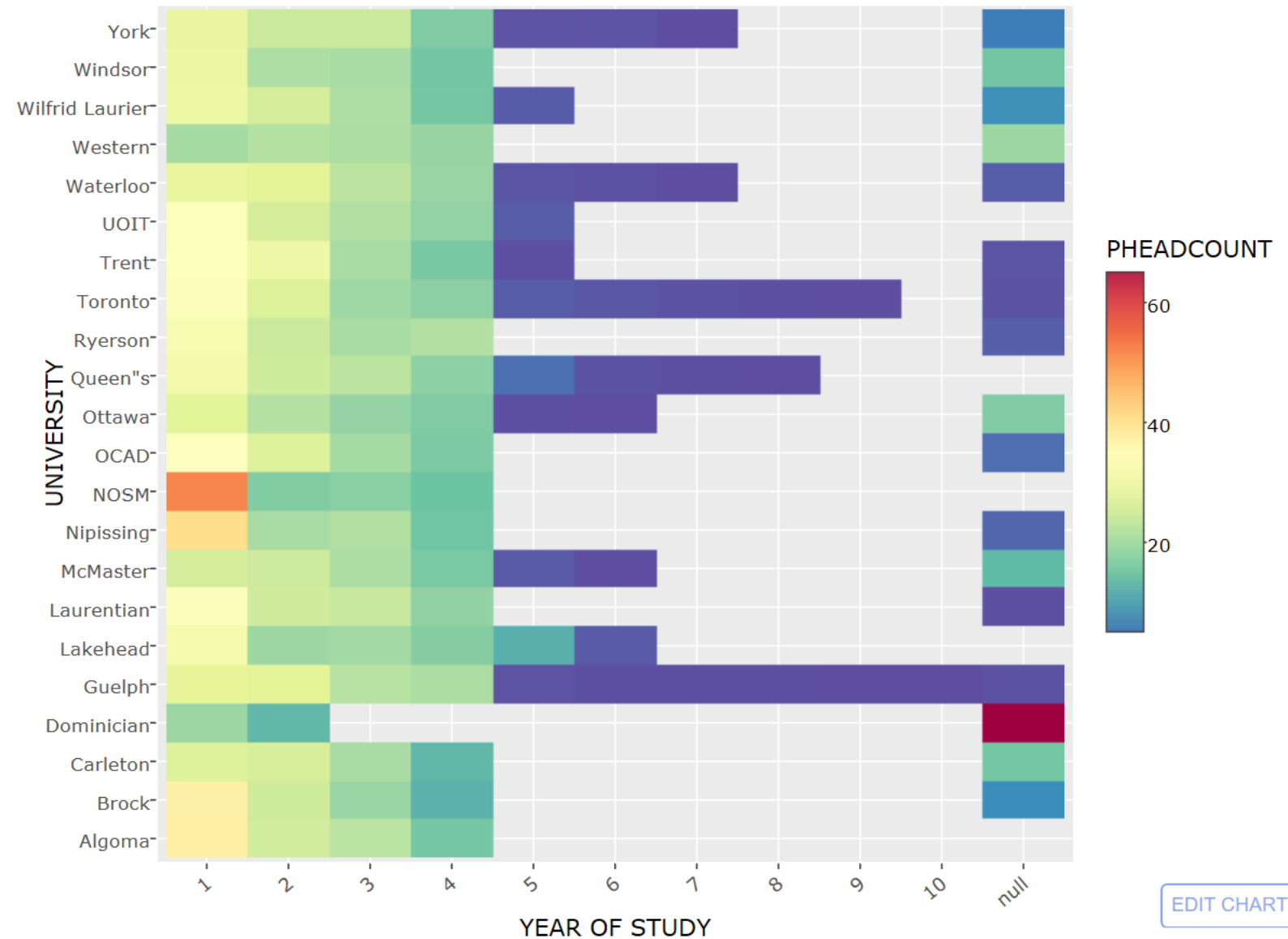




YEAR OF STUDY NORMALIZED



Head Count by Year of Study in Percentage



TOP 10 PROGRAMS



Top 10 Programs

12.00 - Commerce, management, business administration, administrative studies/sciences

4.46.00 - Psychology

0.00.02 - General Arts

5.09.99 - Other biology

4.52.00 - Sociology

7.15.00 - Nursing

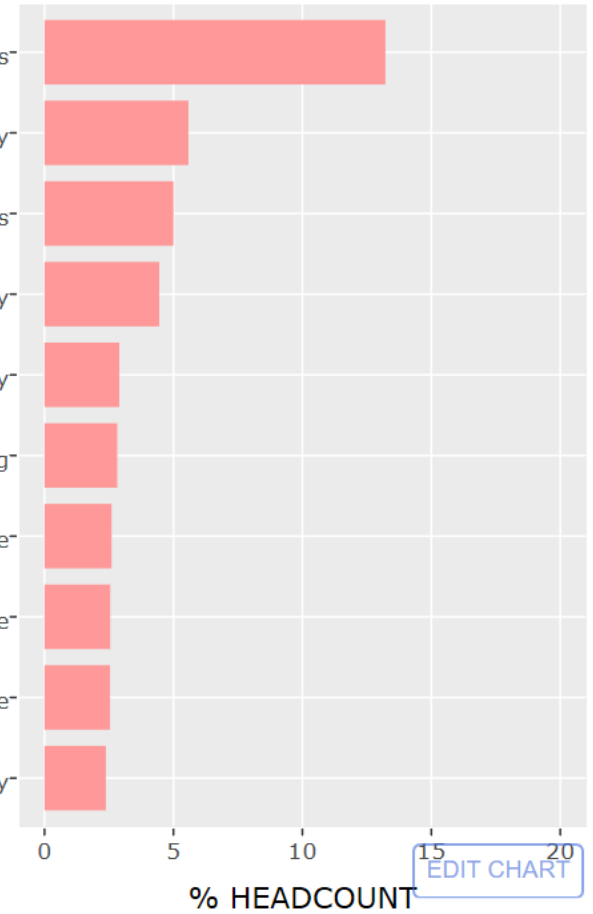
4.43.00 - Political science

0.00.08 - General Science

3.05.00 - English language and/or literature

1.40.00 - Kinesiology, human kinetics and kinanthropology

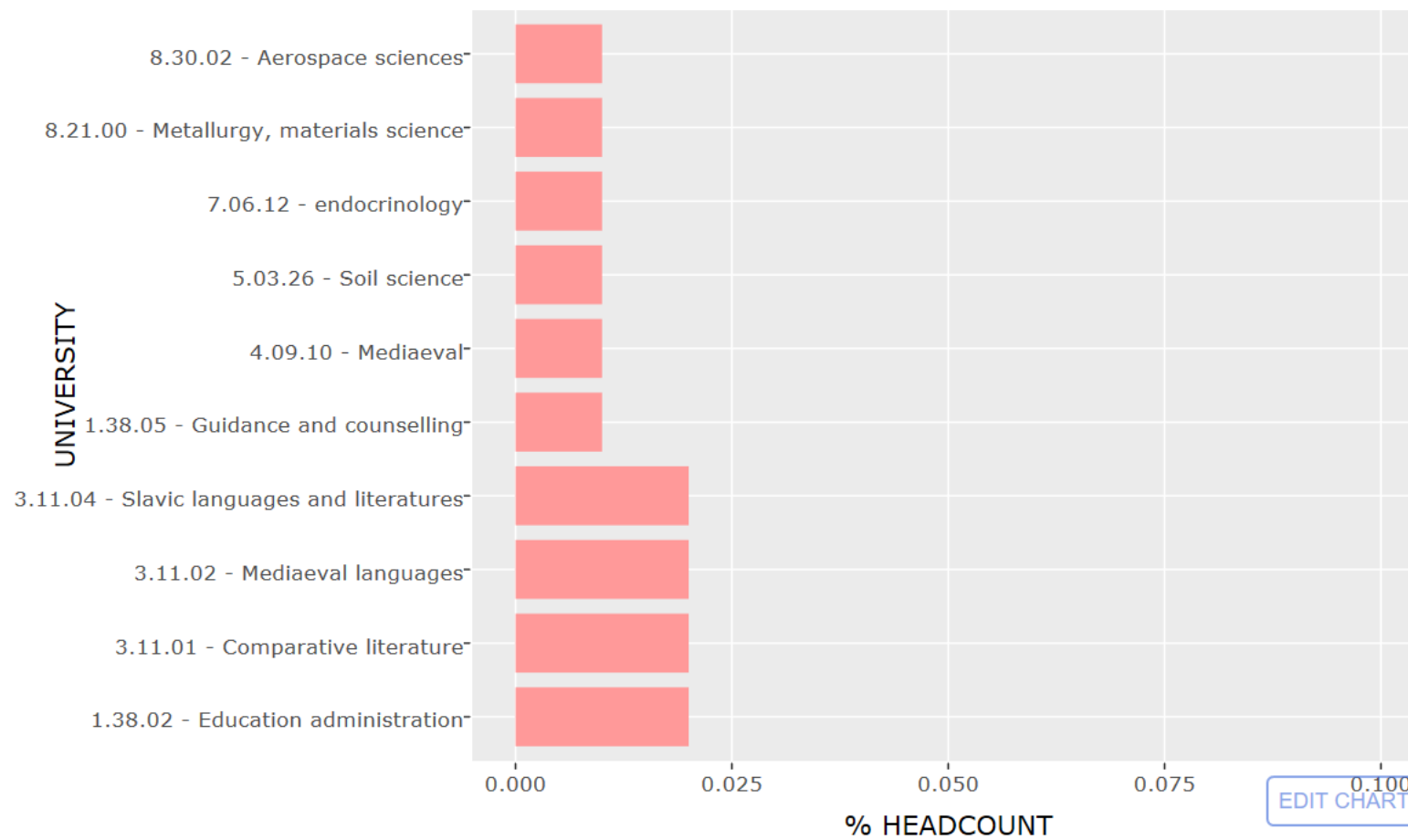
PROGRAM



BOTTOM 10 PROGRAMS



Bottom 10 Programs



DESCRIPTION OF
PROBLEM

DATA SOURCE

TECHNOLOGIES
USED

PREPROCESSING
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VISUALIZATIONS

CONCLUSION

LESSONS
LEARNED

OUTLINE

CONCLUSION



Highest Head Count

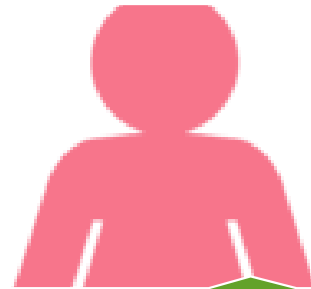


Most Popular Program - Business



Northern Ontario School of Medicine

Age Group 25-34



Majority by Gender



Dominican University



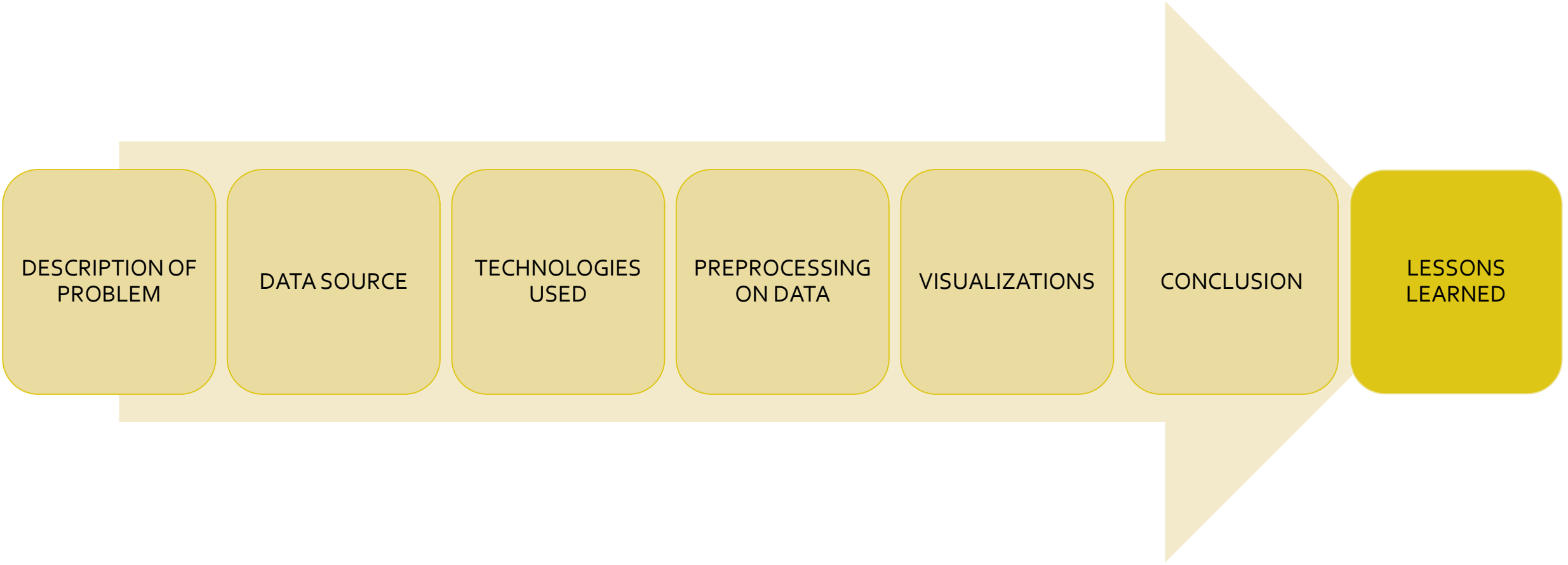
International Student - China

Ryerson University

Part-Time Students



Province - Quebec



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LESSONS LEARNED

Formulate a question and then try to answer it using visualizations

PLOTLY!!! Uses D3 in the background to create interactive visualizations with half the effort

R Markdown Report Format

THANKYOU!

