

UTSA NTT Salaries

ABSTRACT

UTSA employs over 700 non-tenure track faculty as adjunct professors, lecturers, and tutors. These faculty work both full- and part-time in many departments. This is a summary of their salaries, distribution across departments, and full- or part-time status.



DATA

This data is the 2018 salary data provided by UTSA to the *Texas Tribune*, and hosted on their salaries website.

```
## [1] "Name"          "Job Cd"          "Job Title"       "Dept Cd"
## [5] "Department"     "Race"            "Gender"          "Hire Date"
## [9] "Full/Part"      "Annual Salary"

## [1] 721 10
```

There are 721 non-tenure track faculty (adjuncts, lecturers, and tutors) at UTSA.

The dataset was trimmed and recoded focus on salaries. The “Full/Part” variable was recoded into a variable with a readable value.

```
## [1] variables retained:      dept
## [3] salary                    fullpart

## [1] recoded fullpart values: full time
## [3] part time
```

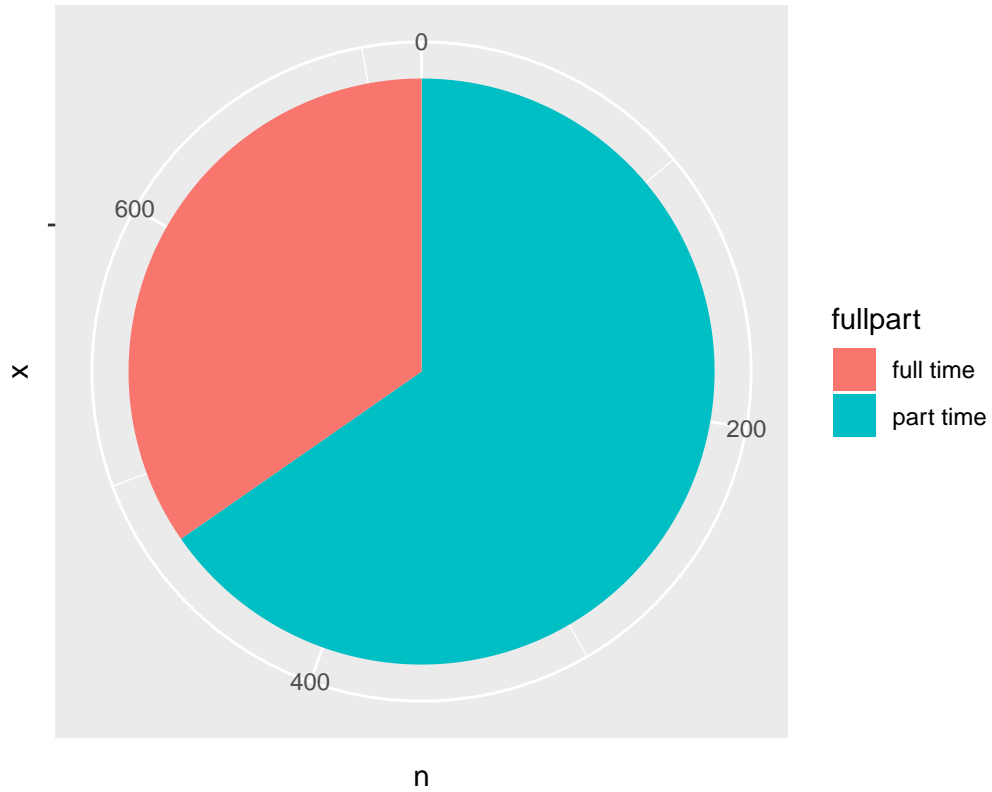
ANALYSIS

Full- and Part-Time

Almost two-thirds of non-tenure track faculty are part-time employees.

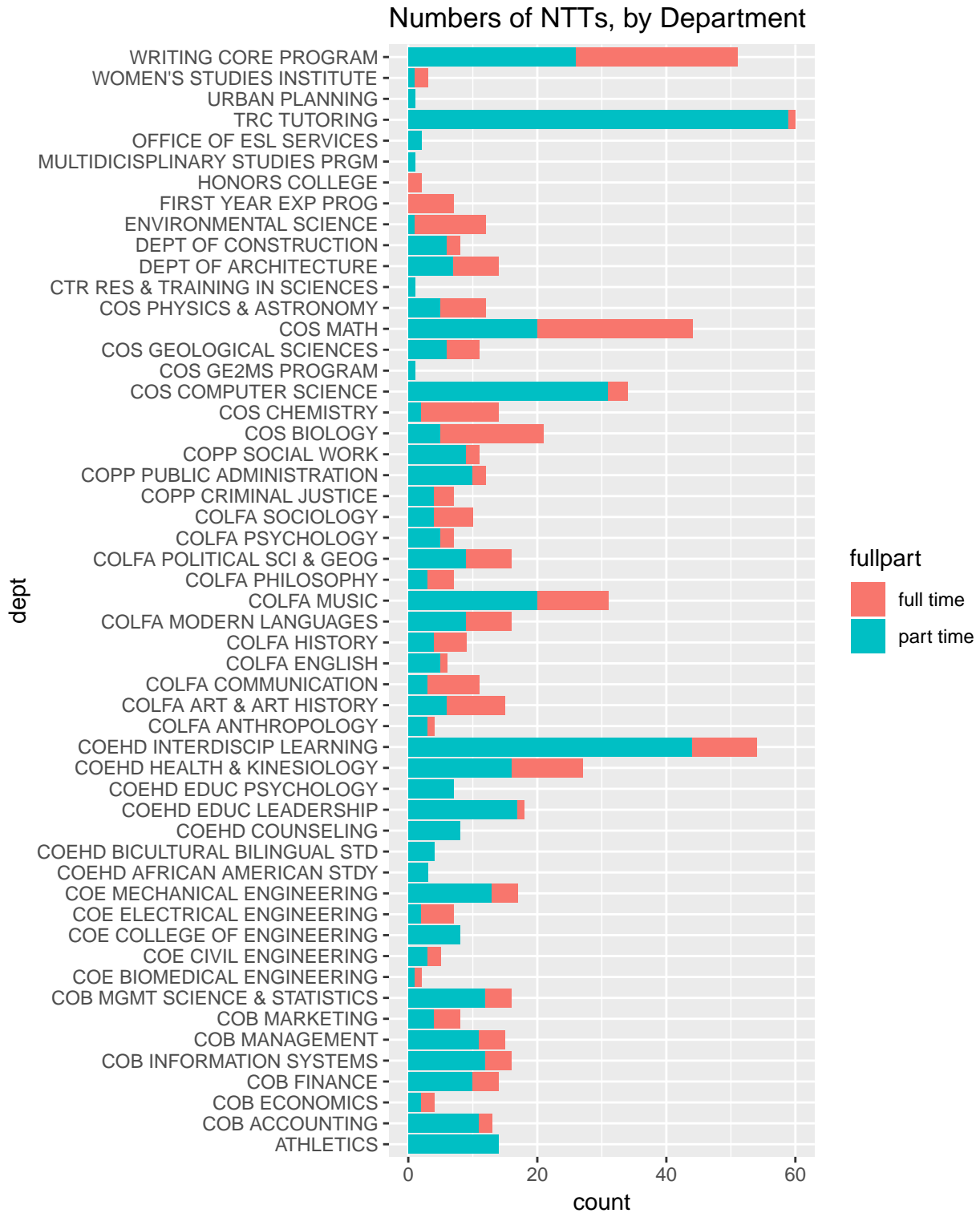
```
## fullpart n
## 1 full time 250
## 2 part time 471
```

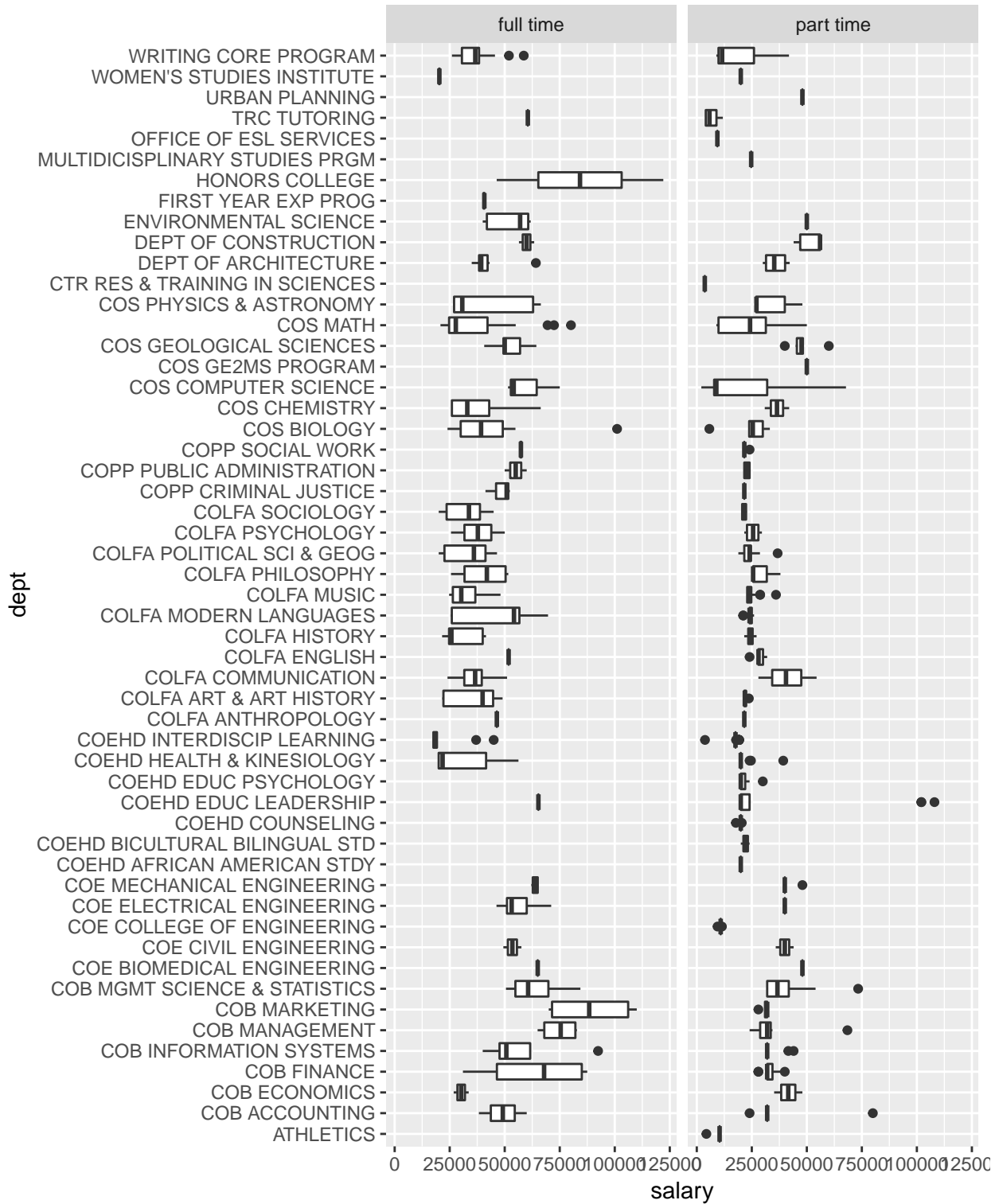
Most NTTs are Part-Time Employees



By Department

The majority of part-time employees are concentrated in the TRC TUTORING center, the COS COMPUTER SCIENCE DEPARTMENT, and the COEHD INTERDISCIPLINARY LEARNING department.

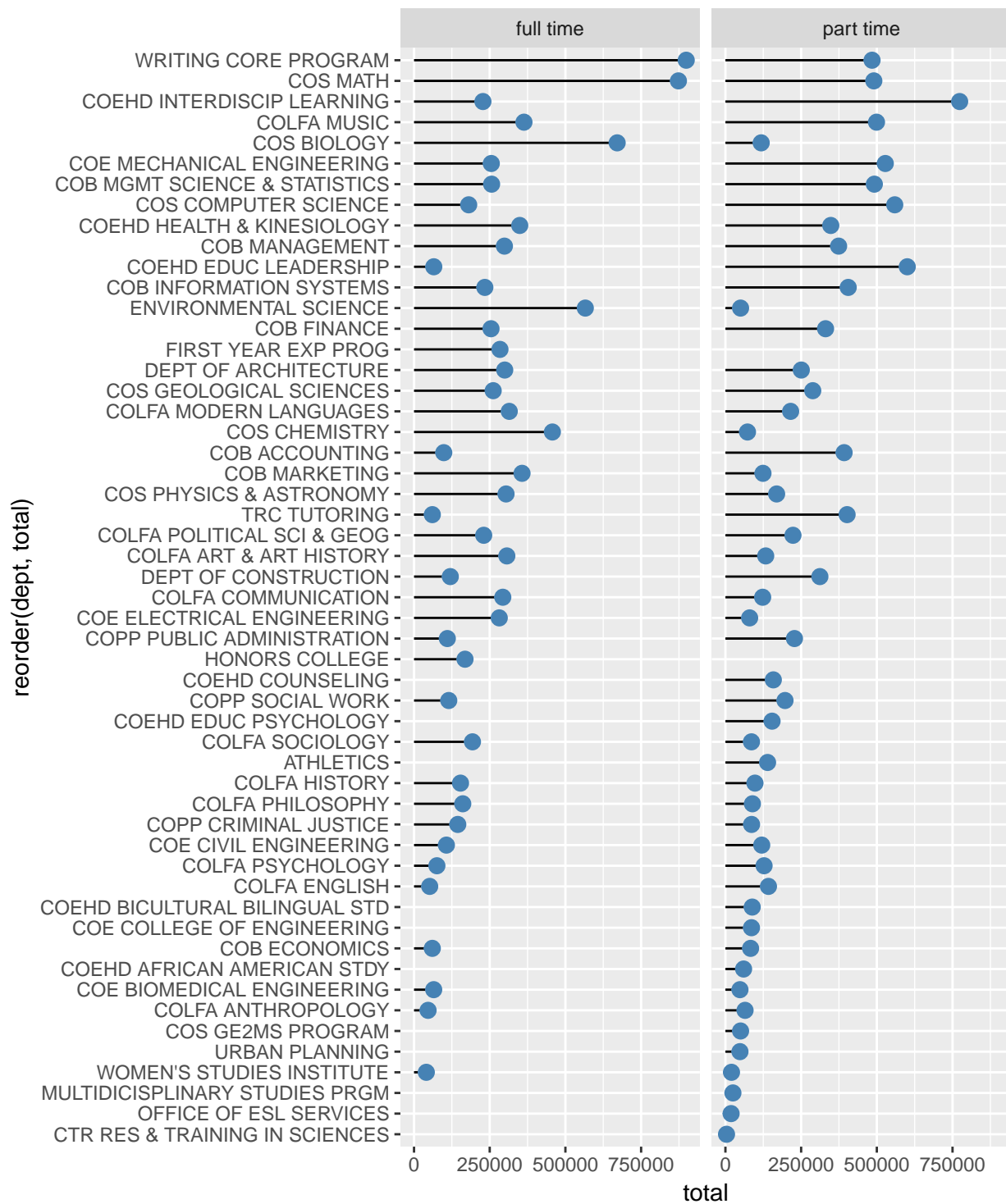




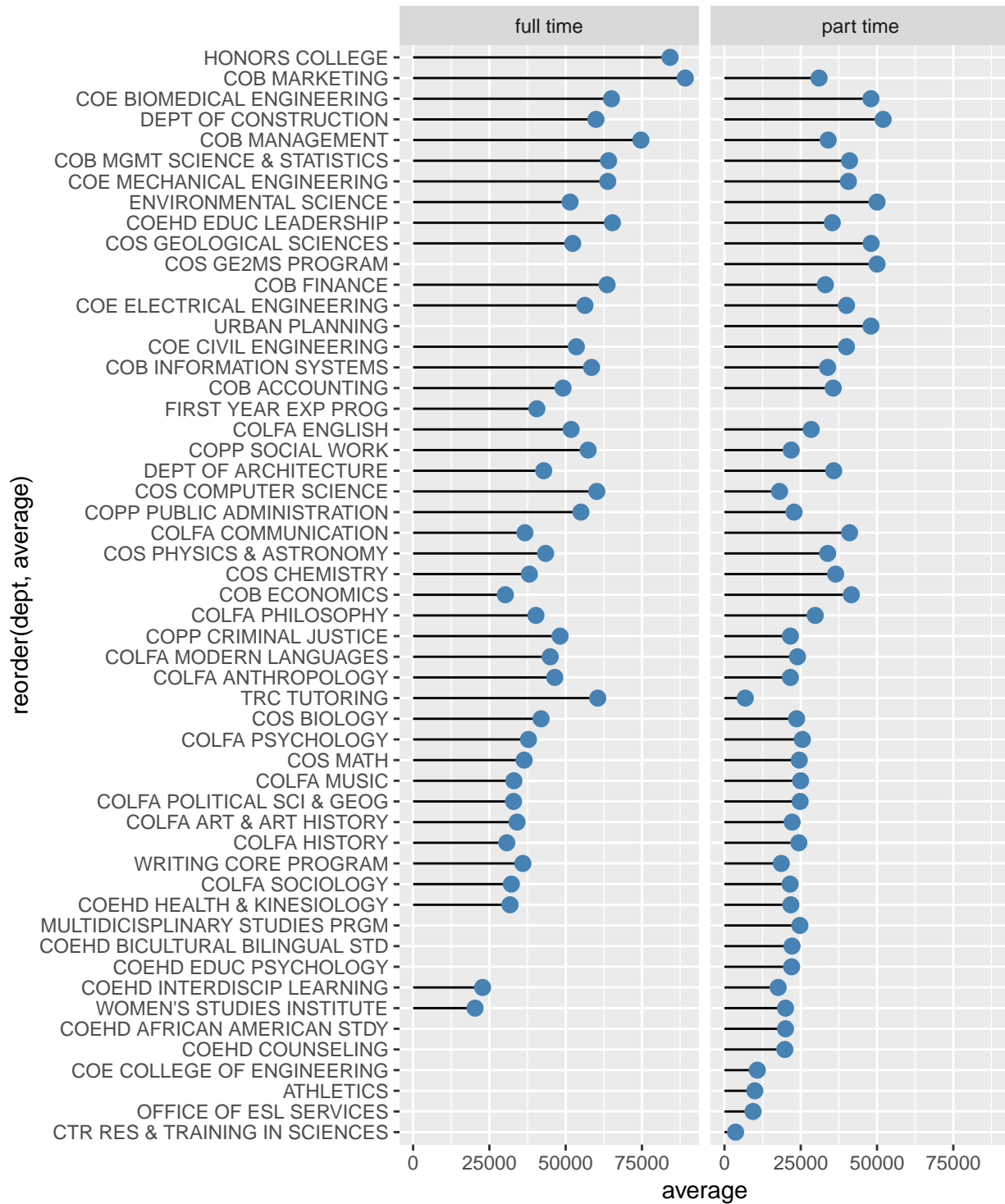
The boxplot outliers are interesting. Especially of note are the two for COEHD EDUC LEADERSHIP; two part-timers have landed themselves especially sweet gigs, grossing over \$100,000 per year.

Total and Average Salaries, by Department

Total NTT Salaries, by Department



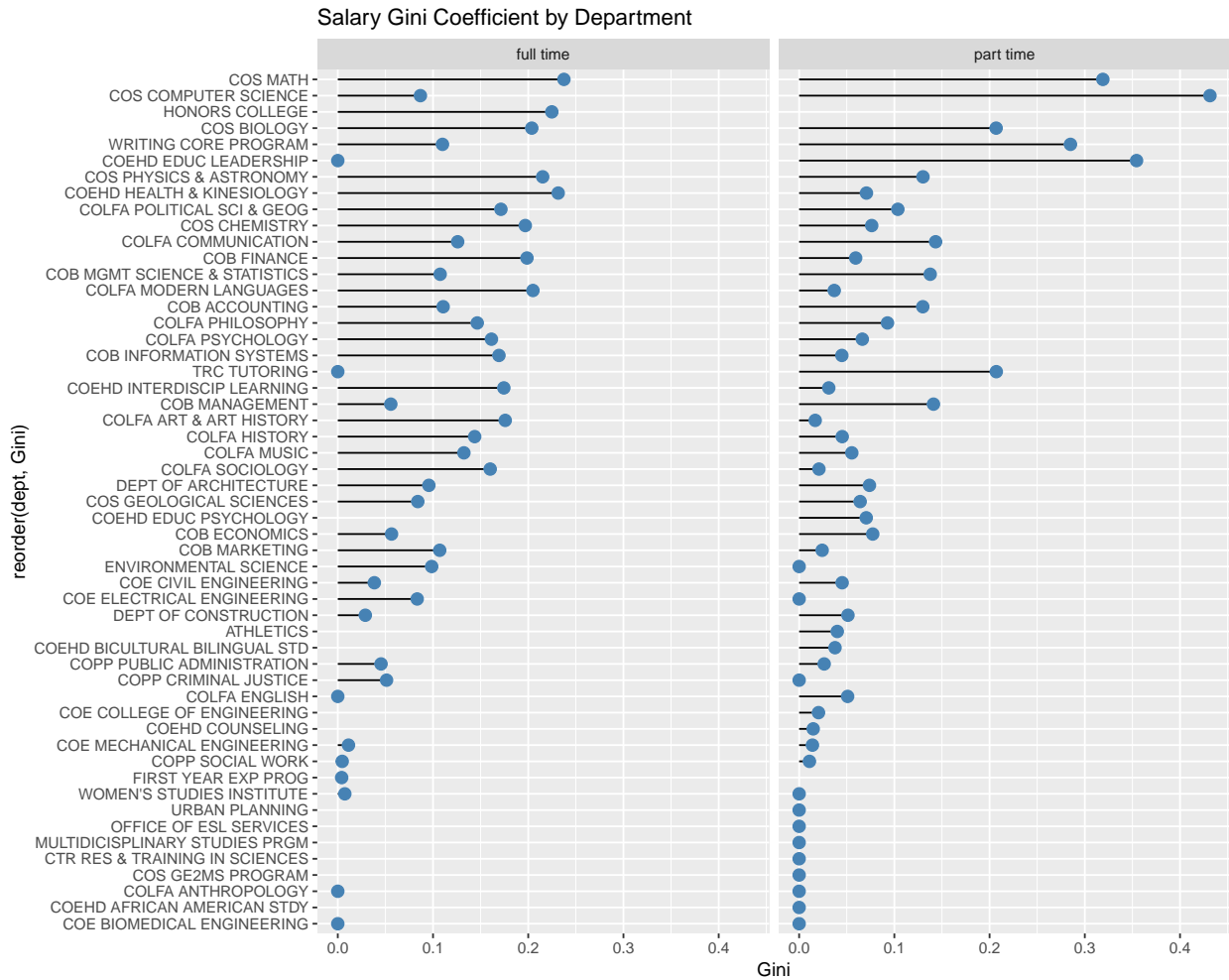
Average NTT Salaries by Department



Salary Inequality

Finally, in a nod to the current Zeitgeist of an envious criticism of “inequality”, the Gini coefficients for departments are compared. NTT salaries have an overall Gini coefficient of 0.32.

A Gini coefficient of zero indicates perfect equality, while an index of one indicates maximal inequality (one individual has it all).



Gini coefficients are comparable to those of OECD nations (0.24 to 0.49), and much lower than the global value (0.61 to 0.68).

REFERENCES

- Gini Coefficient at Wikipedia.
- Lollipop Charts from “geom_lollipop() by the Chartettes” at R-bloggers.
- UTSA Salaries from *The Texas Tribune* Government Salaries Explorer webpage.

APPENDIX - The R Code

Use these packages:

```
library(tidyverse) # includes dplyr and ggplot2 packages
library(readxl)
library(ggalt)     # geom_lollipop()
library(scales)
library(ineq)      # ineq() for the Gini coefficient
```

Read the data from an Excel worksheet page...

```
ntt.data <- read_excel("utsa.xlsx", sheet="NTT")
names(ntt.data)
dim(ntt.data)
```

...and clean it up for further use

```
vars <- list(dept=sym("Department"), fullpart=sym("Full/Part"), salary=sym("Annual Salary"))
ntt.data %>%
  select(., !!!vars ) %>%
  transmute(.,
             dept=dept, salary=salary, fullpart=recode(fullpart, F="full time", P="part time")
             ) -> salary.data
print( c("variables retained:      ", names(salary.data)), quote=FALSE )
print( c("recoded fullpart values:", unique(salary.data$fullpart)), quote=FALSE )
```

Draw the dreaded pie chart for full- or part-time status:

```
salary.data %>%
  group_by(fullpart) %>%
  summarize(., n=n()) %>%
  print.data.frame(.)

salary.data %>%
  group_by(fullpart) %>%
  summarize(., n=n()) %>%
  ggplot(., aes(x="", y=n, fill=fullpart)) +
  geom_col(width=1) +
  labs(title="Most NTTs are Part-Time Employees") +
  coord_polar("y")
# syntax is non-obvious, see "Hadley's favourite pie chart"
# at https://ggplot2.tidyverse.org/reference/coord\_polar.html
```

Show the numbers of NTTs by department...

```
salary.data %>%
  ggplot(., aes(dept)) +
  geom_bar(aes(fill=fullpart)) +
  coord_flip() +
  labs(title="Numbers of NTTs, by Department")
```

...and distributions of their salaries:

```
salary.data %>%
  ggplot(., aes(dept, salary)) +
  geom_boxplot() +
  coord_flip() +
```



```
facet_wrap(~fullpart) +  
labs(title="Salary Distribution, by Department")
```

Summarize the total and average salaries, by department:

```
salary.data %>%  
  group_by(fullpart, dept) %>%  
  summarize(., total=sum(salary)) %>%  
  ggplot(., aes(reorder(dept, total), total)) +  
    geom_lollipop(point.colour="steelblue", point.size=3) +  
    coord_flip() +  
    labs(title="Total NTT Salaries, by Department") +  
    facet_wrap(~fullpart)
```

```
salary.data %>%  
  group_by(fullpart, dept) %>%  
  summarize(., average=mean(salary)) %>%  
  ggplot(., aes(reorder(dept, average), average)) +  
    geom_lollipop(point.colour="steelblue", point.size=3) +  
    coord_flip() +  
    facet_wrap(~fullpart) +  
    labs(title="Average NTT Salaries by Department")
```

Finally, calculate the Gini coefficient, a measure of inequality, by department:

```
library(ineq)  
salary.data %>%  
  group_by(fullpart, dept) %>%  
  summarize(., Gini=ineq(salary, type="Gini")) %>%  
  ggplot(., aes(reorder(dept, Gini), Gini)) +  
    geom_lollipop(point.colour="steelblue", point.size=3) +  
    coord_flip() +  
    facet_wrap(~fullpart) +  
    labs(title="Salary Gini Coefficient by Department")
```