

# Does gender make a difference?

## A labor demand analysis from an online job board

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# Motivation



# Motivation



administrativa para importante inmobiliaria  
en Avellaneda  
Fera y Asociados



LUGAR DE TRABAJO:  
Avellaneda, Buenos  
Aires

SUELDO  
No especificado

ÁREA:  
Administración

PUBLICAD: **Gerente de operaciones**  
Hoy Confidencial

TIPO DE PL: **Detalle del aviso**  
Full-time

Nos encontramos en la búsqueda de un Gerente de Operaciones para una empresa de Gastronomía Gourmet y Mercado deli, con presencia en Patio Bullrich. Buscamos un perfil dinámico con capacidad de gestión de todas las áreas operativas de la empresa, liderazgo de equipo y resolución dinámica diaria.

Su principales responsabilidades serán:

- Coordinar acciones con los distintos sectores, Marketing, Cocina, Compras, Salón y Mercado.
- Gestionar las operaciones del Salón gastronómico y mercado Deli.

- Hoy
- Capital Federal, Buenos Aires, Argentina
- Full-time
- No especificado
- Gastronomía

## Gender classification

The firm is hiring an:

Actress  $\longrightarrow$  Feminine

Actor  $\longrightarrow$  Masculine

Acting person  $\longrightarrow$  Gender neutral

# Data handling

- We took all the words based on the description of ads.
- Stopwords (words like: “the”, “is” and “and”) eliminated based on a standard library. This allows more information to be obtained from the data.
- We take the 100 most common words.
- We take the proportion in which each of those words appears in each job ad.
- Run regressions

# Methodology

We use the Lasso method and Logit Lasso as a robustness test.

**Lasso:**

$$\hat{\beta}_{lasso} = \min_{\beta} \sum_{n=1}^N (y_n - \beta x_n)^2 + \lambda \sum_{i=1}^p |\beta_i|$$

**Logit Lasso**

$$\max_{\beta_0, \beta} \left\{ \sum_{i=1}^N \left[ y_i (\beta_0 + \beta^T x_i) - \log(1 + e^{\beta_0 + \beta^T x_i}) \right] - \lambda \sum_{j=1}^p |\beta_j| \right\}$$



# Methodology

When it comes to cross validation, we use 5-k fold cross validation. This implies that the sample is divided into 5 parts and each of the parts is used as testing and training.

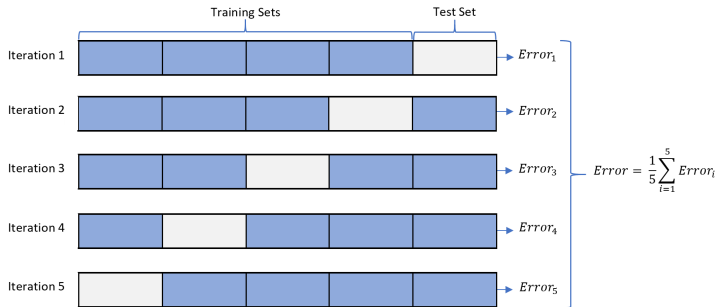


Figure: Cross Validation

# Lasso results

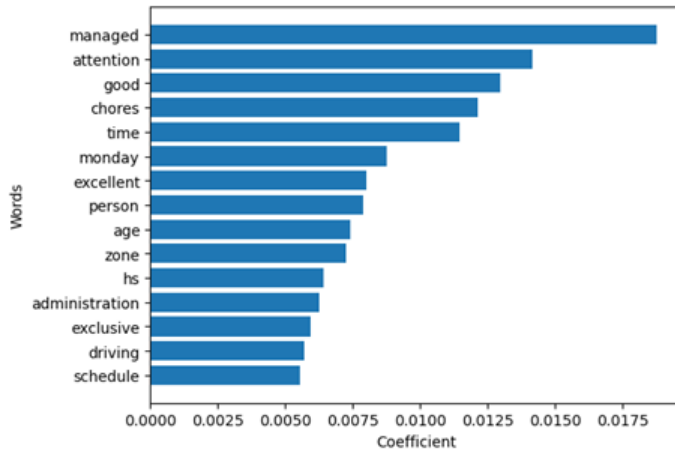


Figure: Lasso positive coefficients

# Lasso results

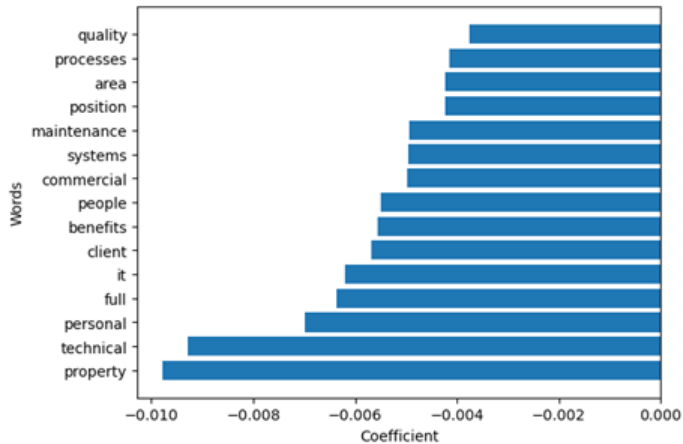


Figure: Lasso negative coefficients

## Logit Lasso results

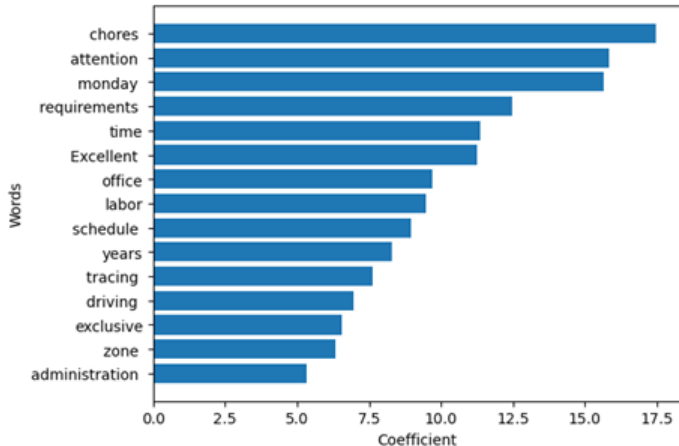


Figure: Logit Lasso positive coefficients

## Logit Lasso results

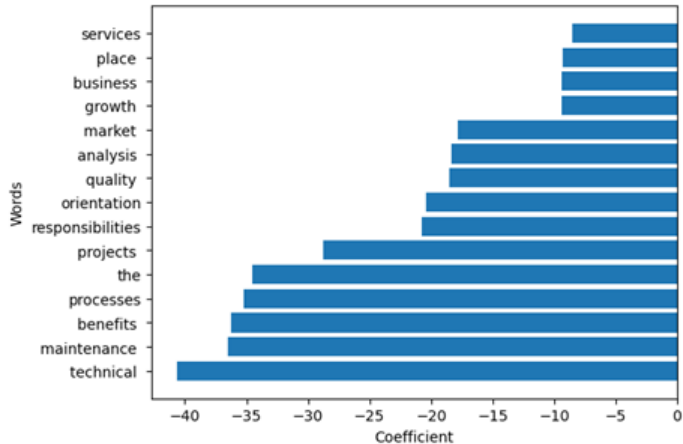


Figure: Logit Lasso negative coefficients

# Discussion

- The words of the ads directed towards women differ significantly from those directed towards men
- Words used in job advertisements aimed at women can help to understand or explain part of the gender pay gap

# Thank you!

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