



Universitat de Lleida

---

# Preferential attachment

Report

---

Made by

*Oriol Alàs Cercós, Sergi Simón Balcells*

Delivery

28<sup>th</sup> of May, 2020

Universitat de Lleida  
Escola Politècnica Superior  
Grau en Enginyeria Informàtica  
CiG

**Professorate:**

Francesc Sebé

## Contents

<b>1</b>	<b>s: 1,3</b>	<b>2</b>
<b>2</b>	<b>s: 1,4</b>	<b>3</b>
<b>3</b>	<b>s: 1,5</b>	<b>4</b>
<b>4</b>	<b>s: 1,6</b>	<b>5</b>
<b>5</b>	<b>s: 1,7</b>	<b>6</b>
<b>6</b>	<b>s: 1,8</b>	<b>7</b>
<b>7</b>	<b>s: 1,9</b>	<b>8</b>
<b>8</b>	<b>s: 2,0</b>	<b>9</b>

## List of Figures

1	Histogram of Zipf Distribution using $s = 1.3$ . . . . .	2
2	Histogram of Zipf Distribution using $s = 1.4$ . . . . .	3
3	Histogram of Zipf Distribution using $s = 1.5$ . . . . .	4
4	Histogram of Zipf Distribution using $s = 1.6$ . . . . .	5
5	Histogram of Zipf Distribution using $s = 1.7$ . . . . .	6
6	Histogram of Zipf Distribution using $s = 1.8$ . . . . .	7
7	Histogram of Zipf Distribution using $s = 1.9$ . . . . .	8
8	Histogram of Zipf Distribution using $s = 2.0$ . . . . .	9

## List of Tables

1	This is a placeholder . . . . .	4
---	---------------------------------	---

1 s: 1,3

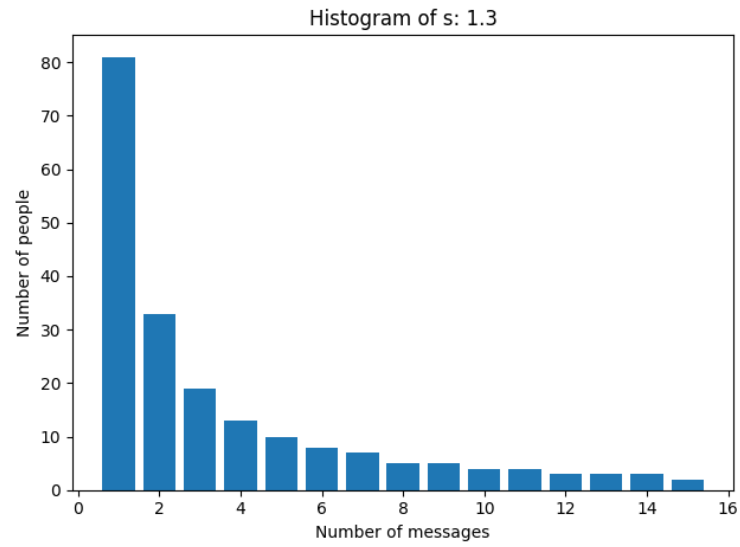


Figure 1: Histogram of Zipf Distribution using  $s = 1.3$

S:1.3			
3	10.4	2.34	1.4533
4	13.4	2.86	1.7533
5	17.7	3.76	1.9533
6	21.4	4.34	2.2133
7	24.8	4.82	2.4933
8	28.7	5.62	2.72
9	32.5	6.36	2.9267
10	36.7	7.16	3.2533
11	40.8	7.96	3.3867
12	44.9	8.84	3.5467
	27.13	5.406	2.57

S:1.3			
3	10.7	2.1	1.98
4	16.9	3.82	2.4
5	24.0	4.6	2.4867
6	28.1	5.22	2.4733
7	35.1	6.06	3.5
8	41.5	7.04	2.8733
9	43.4	6.24	4.5
10	53.4	7.42	3.66
11	58.2	8.64	3.64
12	63.6	8.54	4.0933
	37.49	5.968	3.1607

## 2 s: 1,4

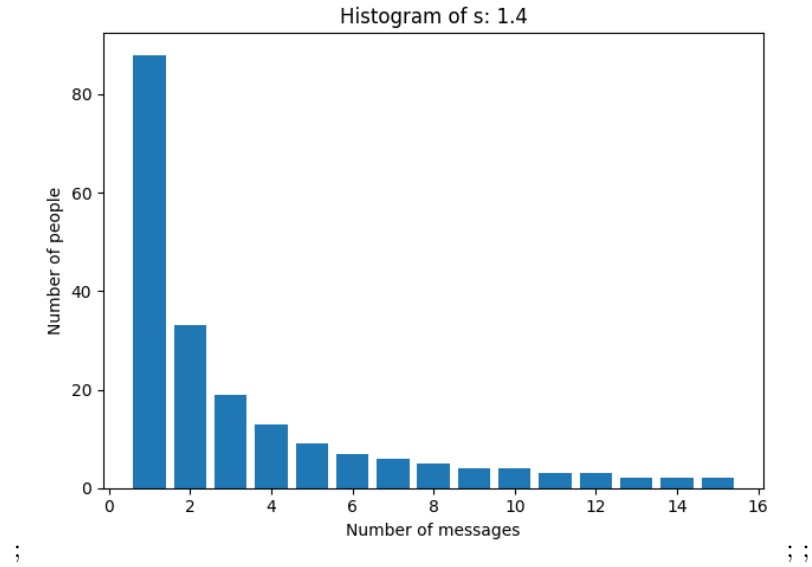


Figure 2: Histogram of Zipf Distribution using  $s = 1.4$

S:1.4			
3	10.0	2.24	1.4133
4	13.4	2.8	1.6333
5	17.5	3.72	1.8067
6	20.1	4.1	2.1467
7	24.4	4.74	2.2867
8	27.7	5.36	2.5467
9	31.2	6.04	2.7133
10	33.1	6.32	3.0933
11	38.0	7.12	3.1467
12	42.7	7.88	3.3867
	25.81	5.032	2.4173

S:1.4			
3	10.6	2.12	2.24
4	17.7	3.48	2.4
5	25.6	3.66	2.8733
6	33.0	4.3	2.88
7	38.1	5.66	3.4667
8	45.1	6.1	3.28
9	46.5	7.18	4.1267
10	53.2	8.6	3.88
11	56.6	8.32	4.28
12	72.8	7.26	3.58
	39.92	5.668	3.3007

### 3 s: 1,5

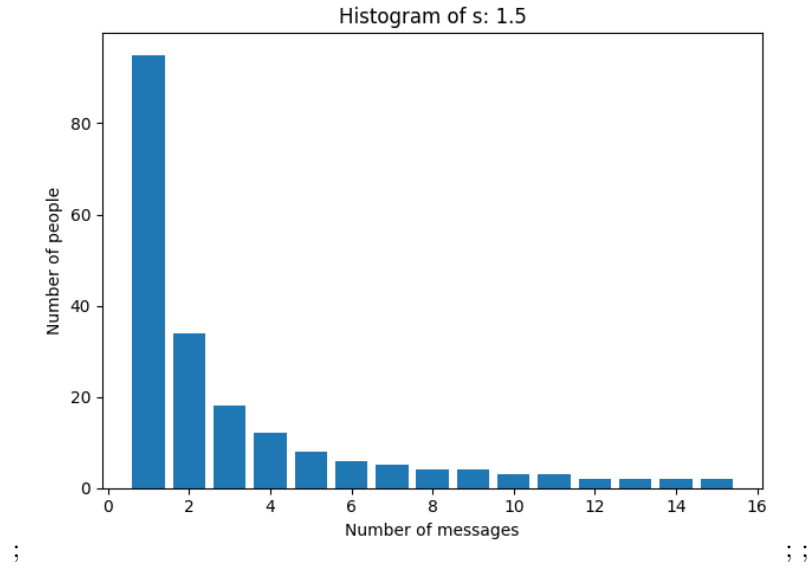


Figure 3: Histogram of Zipf Distribution using  $s = 1.5$

S:1.5			
3	8.9	2.12	1.3933
4	12.2	2.5	1.62
5	16.0	3.16	1.7733
6	18.6	3.9	2.0733
7	22.2	4.58	2.1867
8	25.3	4.98	2.38
9	30.0	5.66	2.5867
10	31.9	6.36	2.88
11	34.9	7.02	3.0333
12	39.4	7.14	3.2867
	23.94	4.742	2.3213

Table 1: This is a placeholder

S:1.5			
3	7.9	2.26	1.98
4	12.3	3.6	2.12
5	18.6	4.0	3.0867
6	22.0	4.96	2.7
7	30.0	5.9	3.6667
8	34.4	6.74	3.4333
9	40.2	6.06	3.7133
10	39.4	6.4	4.5467
11	49.2	7.2	4.0933
12	49.0	7.78	3.6867
	30.3	5.49	3.3027

#### 4 s: 1,6

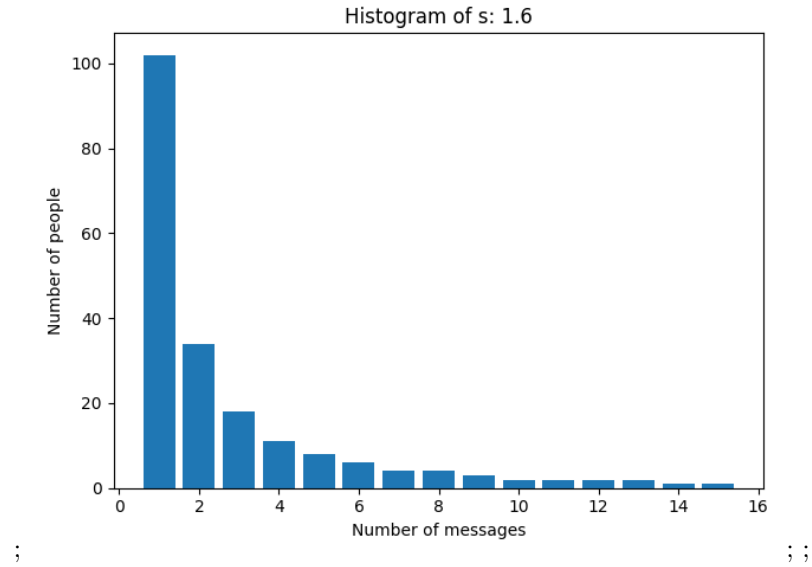


Figure 4: Histogram of Zipf Distribution using  $s = 1.6$

S:1.6			
3	8.3	2.22	1.3067
4	11.4	2.94	1.5667
5	15.3	3.28	1.7
6	17.8	3.92	1.9133
7	20.1	4.56	2.0333
8	23.0	5.1	2.24
9	27.3	5.44	2.4667
10	29.8	6.12	2.52
11	31.6	6.68	2.7133
12	35.0	7.18	2.9267
	21.96	4.744	2.1387

S:1.6			
3	7.1	2.2	1.8333
4	13.3	3.16	2.2
5	17.4	3.44	2.2867
6	19.6	4.84	2.7
7	25.6	5.32	2.9133
8	28.9	6.74	3.8
9	35.5	6.2	4.0933
10	37.5	6.26	4.1267
11	44.4	8.82	3.64
12	43.1	6.14	4.12
	27.24	5.312	3.1713

## 5 s: 1,7

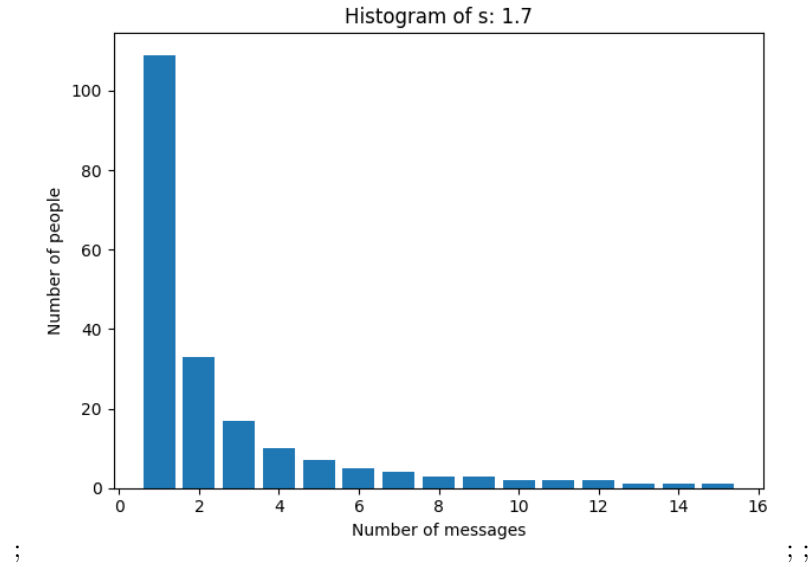


Figure 5: Histogram of Zipf Distribution using  $s = 1.7$

S:1.7			
3	7.4	1.98	1.2933
4	11.3	2.54	1.52
5	15.0	3.12	1.6533
6	17.4	3.52	1.86
7	19.4	4.04	2.0067
8	22.3	4.4	2.14
9	25.5	5.24	2.3133
10	27.8	5.9	2.4667
11	30.2	6.6	2.6333
12	34.0	6.94	2.8267
	21.03	4.428	2.0713

S:1.7			
3	9.6	1.9	1.78
4	13.3	2.96	2.2733
5	18.1	3.58	2.52
6	22.3	3.62	2.7933
7	26.4	4.26	2.8867
8	32.7	4.76	3.2333
9	36.0	6.52	4.08
10	41.0	5.18	3.8133
11	43.6	7.5	4.02
12	47.6	6.32	3.34
	29.06	4.66	3.074

## 6 s: 1,8

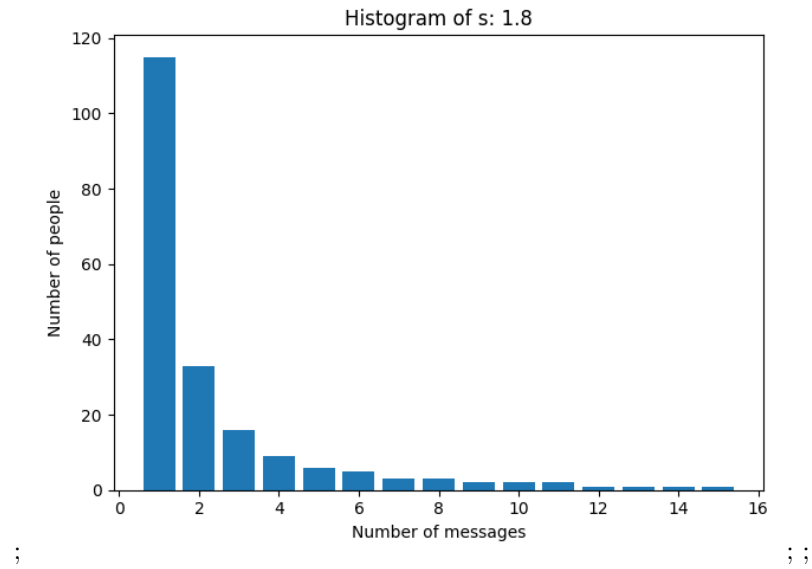


Figure 6: Histogram of Zipf Distribution using  $s = 1.8$

S:1.8			
3	7.0	2.1	1.2267
4	10.1	2.42	1.4933
5	13.9	3.02	1.6133
6	15.5	3.42	1.8467
7	19.7	4.04	1.88
8	21.0	4.58	2.0
9	23.9	4.86	2.2733
10	26.2	5.42	2.44
11	28.4	5.96	2.5667
12	31.9	6.38	2.6933
	19.76	4.22	2.0033

S:1.8			
3	7.3	2.68	1.8667
4	10.9	3.54	2.2933
5	15.1	2.9	2.2267
6	19.8	3.96	2.9067
7	23.9	3.04	2.96
8	27.8	4.16	3.6733
9	32.5	4.22	4.36
10	35.9	5.3	3.6267
11	35.3	4.56	3.8267
12	42.2	5.44	3.8733
	25.07	3.98	3.1613



## 7 s: 1,9

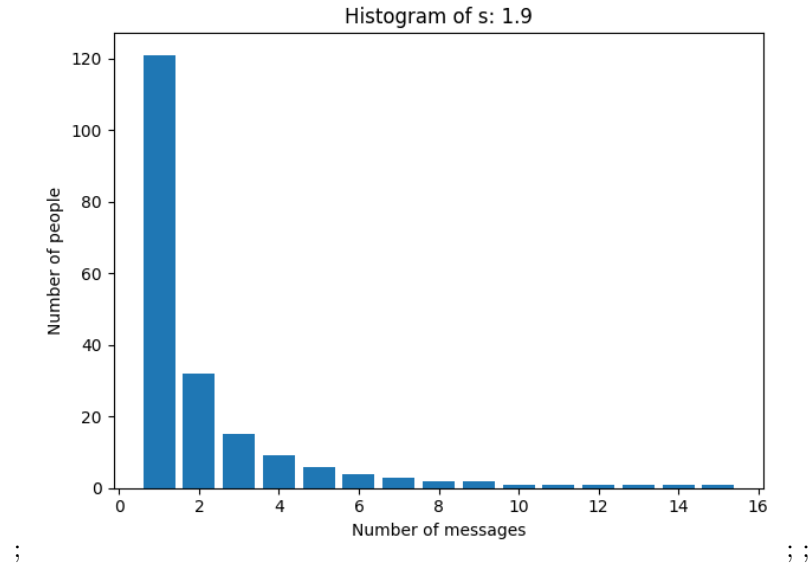


Figure 7: Histogram of Zipf Distribution using  $s = 1.9$

S:1.9			
3	6.0	1.72	1.2533
4	9.5	2.22	1.42
5	13.5	2.52	1.6
6	15.3	2.8	1.7933
7	17.9	3.28	1.8333
8	19.7	3.64	1.9933
9	22.1	3.82	2.1533
10	24.4	4.46	2.26
11	26.5	4.82	2.48
12	30.0	5.48	2.6
	18.49	3.476	1.9387

S:1.9			
3	6.9	3.04	1.9067
4	10.6	2.82	2.26
5	14.0	3.26	2.0533
6	18.1	5.44	2.3933
7	21.1	4.42	2.7533
8	24.4	6.64	3.1067
9	28.5	4.42	3.4
10	30.9	5.24	5.0533
11	39.2	6.96	4.2467
12	37.7	7.38	4.5933
	23.14	4.962	3.1767

## 8 s: 2,0

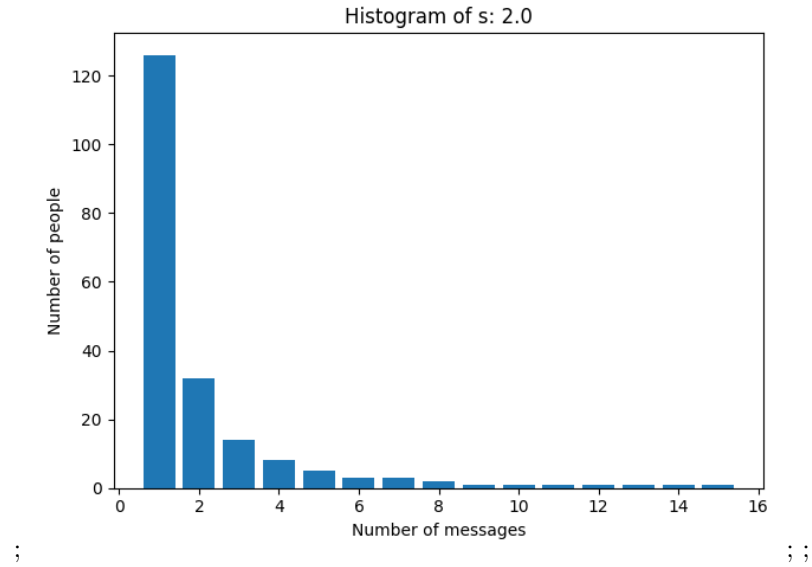


Figure 8: Histogram of Zipf Distribution using  $s = 2.0$

S:2.0			
3	6.4	2.0	1.2467
4	9.0	2.4	1.3933
5	12.9	2.8	1.6333
6	14.4	3.36	1.7133
7	17.5	3.84	1.8133
8	19.0	4.3	1.9933
9	21.6	4.8	2.04
10	23.2	5.24	2.2533
11	24.4	5.56	2.3533
12	28.4	5.88	2.5733
	17.68	4.018	1.9013

S:2.0			
3	6.5	2.62	1.66
4	9.5	3.1	2.1533
5	14.2	3.84	2.3933
6	17.5	4.42	2.74
7	20.7	5.42	2.7733
8	23.6	3.58	3.14
9	26.8	6.34	3.7667
10	29.2	4.94	3.14
11	32.0	5.5	3.7133
12	36.0	7.9	4.4933
	21.6	4.766	2.9973