网易云课堂 | 涨薪计划 RODUEE BY DEFERE











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6:35

























萨缪尔老师

网易数据分析教研负责人;

前盛大游戏战略规划总监、前腾讯游戏商业智能中心Leader 上海交通大学高金硕士、《哈佛管理导师》外部导师

- 知乎大V:「萨缪尔」主要聚集与商业分析、行业与战略分析、Python数据分析等
- BAT互联网巨头商业洞察分析 & 咨询公司战略咨询背景
- 擅长行业趋势研究和战略管理咨询工具,**为20多家上市公司** 提供战略发展决策建议











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BRORDGE BY DELEUSE



63000GE DA DEAEUSE





PRODUCE BY DETERSE



BRODGE BL DELEVSE









主观概率是依据经验或者主观估计的数值。如个人经验预估











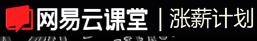






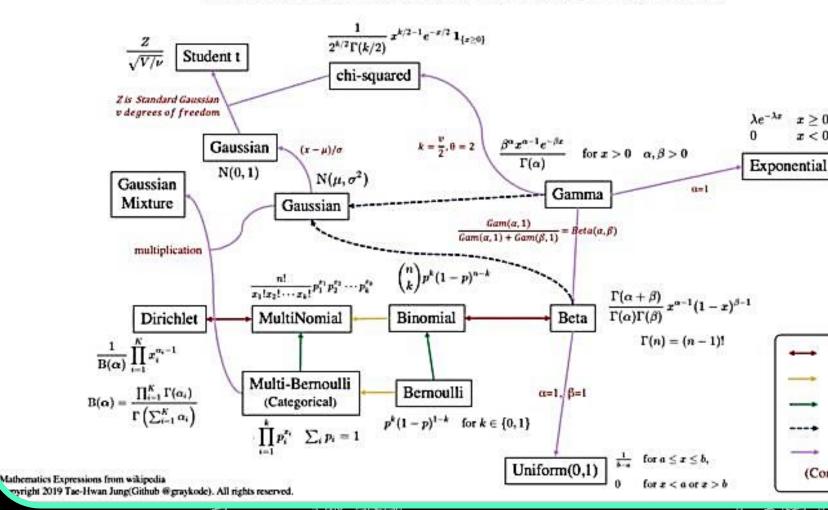






常用的概率分布网络影响的概率分布

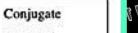
Relationship of distribution probability focused on Deep Learning













→ N Times

---+ Limit

Special Relationship

(Conditional, etc)

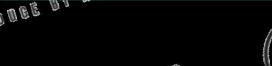
案例: 生日悖论

密码不要设置成生日的原因

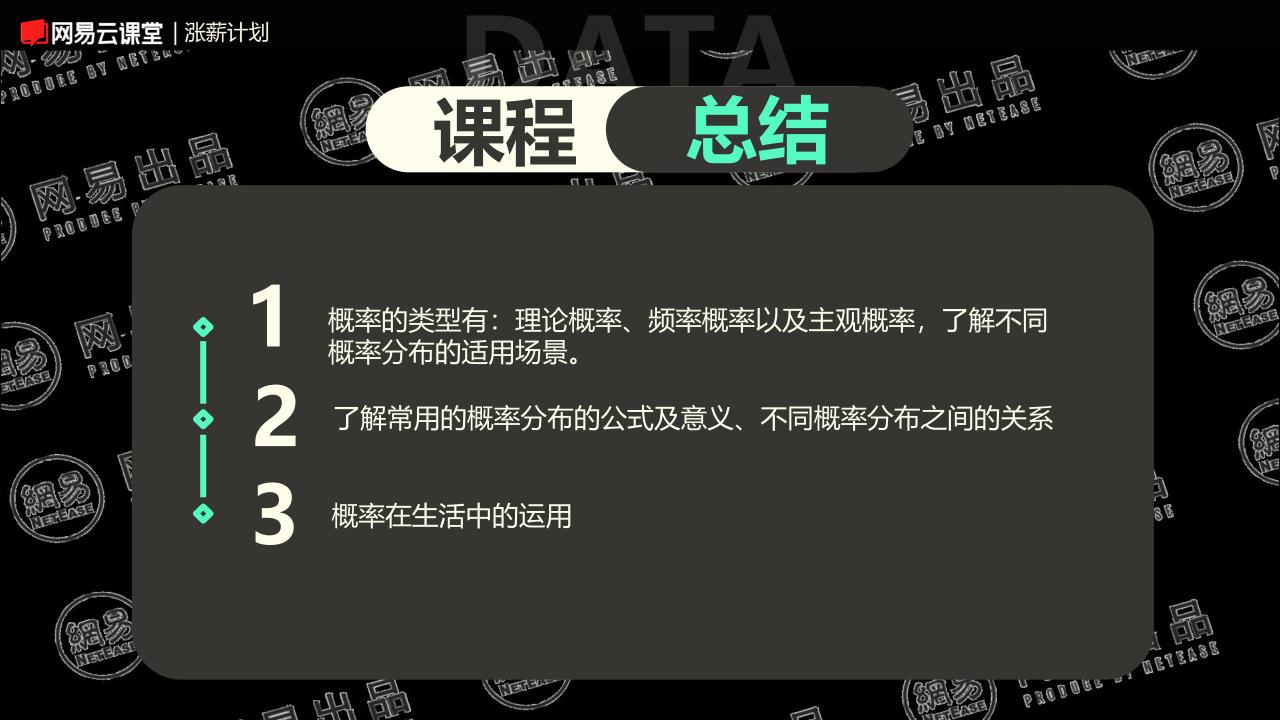
生日悖论 (Birthday paradox) 是指,如果一 个房间里有23个或23个以上的人,那么至少有 两个人的生日相同的概率要大于50%。这就意 味着在一个典型的标准小学班级(30人)中,存在 两人生日相同的可能性更高。对于60或者更多 的人,这种概率要大于99%。从引起逻辑矛盾 的角度来说生日悖论并不是一种悖论,从这个 数学事实与一般直觉相抵触的意义上,它才称 得上是一个悖论。大多数人会认为,23人中有2 人生日相同的概率应该远远小于50%

N 概率 复的概率 N 概率 复的概率 N 概率 复的概率 2 99.73% 0.27% 22 52.43% 47.57% 42 8.60% 91.4 3 99.18% 0.82% 23 49.27% 50.73% 43 7.61% 92.3 4 98.36% 1.64% 24 46.17% 53.83% 44 6.71% 93.2 5 97.29% 2.71% 25 43.13% 56.87% 45 5.90% 94.1 6 95.95% 4.05% 26 40.18% 59.82% 46 5.17% 94.8 7 94.38% 5.62% 27 37.31% 62.69% 47 4.52% 95.4 8 92.57% 7.43% 28 34.55% 65.45% 48 3.94% 96.0 9 90.54% 9.46% 29 31.90% 68.10% 49 3.42% 96.5 10 88.31% 11.69% 30					U D m 2			7/42	
3 99.18% 0.82% 23 49.27% 50.73% 43 7.61% 92.3 4 98.36% 1.64% 24 46.17% 53.83% 44 6.71% 93.2 5 97.29% 2.71% 25 43.13% 56.87% 45 5.90% 94.1 6 95.95% 4.05% 26 40.18% 59.82% 46 5.17% 94.8 7 94.38% 5.62% 27 37.31% 62.69% 47 4.52% 95.4 8 92.57% 7.43% 28 34.55% 65.45% 48 3.94% 96.0 9 90.54% 9.46% 29 31.90% 68.10% 49 3.42% 96.5 10 88.31% 11.69% 30 29.37% 70.63% 50 2.96% 97.0 11 85.89% 14.11% 31 26.95% 73.05% 51 2.56% 97.4 12 83.30% 16.70% 32 24.67% 75.33% 52 2.20% 97.8 13	N			N			N		至少一个 i 复的概率
4 98.36% 1.64% 24 46.17% 53.83% 44 6.71% 93.2° 5 97.29% 2.71% 25 43.13% 56.87% 45 5.90% 94.1° 6 95.95% 4.05% 26 40.18% 59.82% 46 5.17% 94.8 7 94.38% 5.62% 27 37.31% 62.69% 47 4.52% 95.4° 8 92.57% 7.43% 28 34.55% 65.45% 48 3.94% 96.0° 9 90.54% 9.46% 29 31.90% 68.10% 49 3.42% 96.5° 10 88.31% 11.69% 30 29.37% 70.63% 50 2.96% 97.0° 11 85.89% 14.11% 31 26.95% 73.05% 51 2.56% 97.4° 12 83.30% 16.70% 32 24.67% 75.33% 52 2.20% 97.8° 13 80.56% 19.44% 33 22.50% 77.50% 53 1.89% 98.1 <td< th=""><td>2</td><td>99.73%</td><td>0.27%</td><th>22</th><td>52.43%</td><td>47.57%</td><th>42</th><td>8.60%</td><td>91.40%</td></td<>	2	99.73%	0.27%	22	52.43%	47.57%	42	8.60%	91.40%
5 97.29% 2.71% 25 43.13% 56.87% 45 5.90% 94.1 6 95.95% 4.05% 26 40.18% 59.82% 46 5.17% 94.8 7 94.38% 5.62% 27 37.31% 62.69% 47 4.52% 95.4 8 92.57% 7.43% 28 34.55% 65.45% 48 3.94% 96.0 9 90.54% 9.46% 29 31.90% 68.10% 49 3.42% 96.5 10 88.31% 11.69% 30 29.37% 70.63% 50 2.96% 97.0 11 85.89% 14.11% 31 26.95% 73.05% 51 2.56% 97.4 12 83.30% 16.70% 32 24.67% 75.33% 52 2.20% 97.8 13 80.56% 19.44% 33 22.50% 77.50% 53 1.89% 98.1 14 77.69% 22.31% 34 20.47% 79.53% 54 1.61% 98.3 15 <th>3</th> <th>99.18%</th> <th>0.82%</th> <th>23</th> <th>49.27%</th> <th>50.73%</th> <th>43</th> <th>7.61%</th> <th>92.39%</th>	3	99.18%	0.82%	23	49.27%	50.73%	43	7.61%	92.39%
6 95.95% 4.05% 26 40.18% 59.82% 46 5.17% 94.8 7 94.38% 5.62% 27 37.31% 62.69% 47 4.52% 95.4 8 92.57% 7.43% 28 34.55% 65.45% 48 3.94% 96.0 9 90.54% 9.46% 29 31.90% 68.10% 49 3.42% 96.5 10 88.31% 11.69% 30 29.37% 70.63% 50 2.96% 97.0 11 85.89% 14.11% 31 26.95% 73.05% 51 2.56% 97.4 12 83.30% 16.70% 32 24.67% 75.33% 52 2.20% 97.8 13 80.56% 19.44% 33 22.50% 77.50% 53 1.89% 98.1 14 77.69% 22.31% 34 20.47% 79.53% 54 1.61% 98.3 15 74.71% 25.29% 35 18.56% 81.44% 55 1.37% 98.6 16<	4	98.36%	1.64%	24	46.17%	53.83%	44	6.71%	93.29%
7 94.38% 5.62% 27 37.31% 62.69% 47 4.52% 95.4 8 92.57% 7.43% 28 34.55% 65.45% 48 3.94% 96.0 9 90.54% 9.46% 29 31.90% 68.10% 49 3.42% 96.5 10 88.31% 11.69% 30 29.37% 70.63% 50 2.96% 97.0 11 85.89% 14.11% 31 26.95% 73.05% 51 2.56% 97.4 12 83.30% 16.70% 32 24.67% 75.33% 52 2.20% 97.8 13 80.56% 19.44% 33 22.50% 77.50% 53 1.89% 98.1 14 77.69% 22.31% 34 20.47% 79.53% 54 1.61% 98.3 15 74.71% 25.29% 35 18.56% 81.44% 55 1.37% 98.6 16 71.64% 28.36% 36 16.78% 83.22% 56 1.17% 98.8 1	5	97.29%	2.71%	25	43.13%	56.87%	45	5.90%	94.10%
8 92.57% 7.43% 28 34.55% 65.45% 48 3.94% 96.0 9 90.54% 9.46% 29 31.90% 68.10% 49 3.42% 96.5 10 88.31% 11.69% 30 29.37% 70.63% 50 2.96% 97.0 11 85.89% 14.11% 31 26.95% 73.05% 51 2.56% 97.4 12 83.30% 16.70% 32 24.67% 75.33% 52 2.20% 97.8 13 80.56% 19.44% 33 22.50% 77.50% 53 1.89% 98.1 14 77.69% 22.31% 34 20.47% 79.53% 54 1.61% 98.3 15 74.71% 25.29% 35 18.56% 81.44% 55 1.37% 98.6 16 71.64% 28.36% 36 16.78% 83.22% 56 1.17% 98.8 17 68.50% 31.50% 37 15.13% 84.87% 57 0.99% 99.0 <td< th=""><th>6</th><th>95.95%</th><th>4.05%</th><th>26</th><th>40.18%</th><th>59.82%</th><th>46</th><th>5.17%</th><th>94.83%</th></td<>	6	95.95%	4.05%	26	40.18%	59.82%	46	5.17%	94.83%
9 90.54% 9.46% 29 31.90% 68.10% 49 3.42% 96.56 10 88.31% 11.69% 30 29.37% 70.63% 50 2.96% 97.0 11 85.89% 14.11% 31 26.95% 73.05% 51 2.56% 97.4 12 83.30% 16.70% 32 24.67% 75.33% 52 2.20% 97.8 13 80.56% 19.44% 33 22.50% 77.50% 53 1.89% 98.1 14 77.69% 22.31% 34 20.47% 79.53% 54 1.61% 98.3 15 74.71% 25.29% 35 18.56% 81.44% 55 1.37% 98.6 16 71.64% 28.36% 36 16.78% 83.22% 56 1.17% 98.8 17 68.50% 31.50% 37 15.13% 84.87% 57 0.99% 99.0 18 65.31% 34.69% 38 13.59% 86.41% 58 0.83% 99.1	7	94.38%	5.62%	27	37.31%	62.69%	47	4.52%	95.48%
10 88.31% 11.69% 30 29.37% 70.63% 50 2.96% 97.0 11 85.89% 14.11% 31 26.95% 73.05% 51 2.56% 97.4 12 83.30% 16.70% 32 24.67% 75.33% 52 2.20% 97.8 13 80.56% 19.44% 33 22.50% 77.50% 53 1.89% 98.1 14 77.69% 22.31% 34 20.47% 79.53% 54 1.61% 98.3 15 74.71% 25.29% 35 18.56% 81.44% 55 1.37% 98.6 16 71.64% 28.36% 36 16.78% 83.22% 56 1.17% 98.8 17 68.50% 31.50% 37 15.13% 84.87% 57 0.99% 99.0 18 65.31% 34.69% 38 13.59% 86.41% 58 0.83% 99.1 19 62.09% 37.91% 39 12.18% 87.82% 59 0.70% 99.4	8	92.57%	7.43%	28	34.55%	65.45%	48	3.94%	96.06%
11 85.89% 14.11% 31 26.95% 73.05% 51 2.56% 97.4 12 83.30% 16.70% 32 24.67% 75.33% 52 2.20% 97.8 13 80.56% 19.44% 33 22.50% 77.50% 53 1.89% 98.1 14 77.69% 22.31% 34 20.47% 79.53% 54 1.61% 98.3 15 74.71% 25.29% 35 18.56% 81.44% 55 1.37% 98.6 16 71.64% 28.36% 36 16.78% 83.22% 56 1.17% 98.8 17 68.50% 31.50% 37 15.13% 84.87% 57 0.99% 99.0 18 65.31% 34.69% 38 13.59% 86.41% 58 0.83% 99.1 19 62.09% 37.91% 39 12.18% 87.82% 59 0.70% 99.3 20 58.86% 41.14% 40 10.88% 89.12% 60 0.59% 99.4 <th>9</th> <th>90.54%</th> <th>9.46%</th> <th>29</th> <th>31.90%</th> <th>68.10%</th> <th>49</th> <th>3.42%</th> <th>96.58%</th>	9	90.54%	9.46%	29	31.90%	68.10%	49	3.42%	96.58%
12 83.30% 16.70% 32 24.67% 75.33% 52 2.20% 97.86 13 80.56% 19.44% 33 22.50% 77.50% 53 1.89% 98.1 14 77.69% 22.31% 34 20.47% 79.53% 54 1.61% 98.3 15 74.71% 25.29% 35 18.56% 81.44% 55 1.37% 98.6 16 71.64% 28.36% 36 16.78% 83.22% 56 1.17% 98.8 17 68.50% 31.50% 37 15.13% 84.87% 57 0.99% 99.0 18 65.31% 34.69% 38 13.59% 86.41% 58 0.83% 99.1 19 62.09% 37.91% 39 12.18% 87.82% 59 0.70% 99.3 20 58.86% 41.14% 40 10.88% 89.12% 60 0.59% 99.4	10	88.31%	11.69%	30	29.37%	70.63%	50	2.96%	97.04%
13 80.56% 19.44% 33 22.50% 77.50% 53 1.89% 98.1 14 77.69% 22.31% 34 20.47% 79.53% 54 1.61% 98.3 15 74.71% 25.29% 35 18.56% 81.44% 55 1.37% 98.6 16 71.64% 28.36% 36 16.78% 83.22% 56 1.17% 98.8 17 68.50% 31.50% 37 15.13% 84.87% 57 0.99% 99.0 18 65.31% 34.69% 38 13.59% 86.41% 58 0.83% 99.1 19 62.09% 37.91% 39 12.18% 87.82% 59 0.70% 99.3 20 58.86% 41.14% 40 10.88% 89.12% 60 0.59% 99.4	11	85.89%	14.11%	31	26.95%	73.05%	51	2.56%	97.44%
14 77.69% 22.31% 34 20.47% 79.53% 54 1.61% 98.33 15 74.71% 25.29% 35 18.56% 81.44% 55 1.37% 98.63 16 71.64% 28.36% 36 16.78% 83.22% 56 1.17% 98.83 17 68.50% 31.50% 37 15.13% 84.87% 57 0.99% 99.0 18 65.31% 34.69% 38 13.59% 86.41% 58 0.83% 99.1 19 62.09% 37.91% 39 12.18% 87.82% 59 0.70% 99.3 20 58.86% 41.14% 40 10.88% 89.12% 60 0.59% 99.4	12	83.30%	16.70%	32	24.67%	75.33%	52	2.20%	97.80%
15 74.71% 25.29% 35 18.56% 81.44% 55 1.37% 98.66 16 71.64% 28.36% 36 16.78% 83.22% 56 1.17% 98.86 17 68.50% 31.50% 37 15.13% 84.87% 57 0.99% 99.0 18 65.31% 34.69% 38 13.59% 86.41% 58 0.83% 99.1 19 62.09% 37.91% 39 12.18% 87.82% 59 0.70% 99.3 20 58.86% 41.14% 40 10.88% 89.12% 60 0.59% 99.4	13	80.56%	19.44%	33	22.50%	77.50%	53	1.89%	98.11%
16 71.64% 28.36% 36 16.78% 83.22% 56 1.17% 98.88 17 68.50% 31.50% 37 15.13% 84.87% 57 0.99% 99.0 18 65.31% 34.69% 38 13.59% 86.41% 58 0.83% 99.1 19 62.09% 37.91% 39 12.18% 87.82% 59 0.70% 99.3 20 58.86% 41.14% 40 10.88% 89.12% 60 0.59% 99.4	14	77.69%	22.31%	34	20.47%	79.53%	54	1.61%	98.39%
17 68.50% 31.50% 37 15.13% 84.87% 57 0.99% 99.0 18 65.31% 34.69% 38 13.59% 86.41% 58 0.83% 99.1 19 62.09% 37.91% 39 12.18% 87.82% 59 0.70% 99.3 20 58.86% 41.14% 40 10.88% 89.12% 60 0.59% 99.4	15	74.71%	25.29%	35	18.56%	81.44%	55	1.37%	98.63%
18 65.31% 34.69% 38 13.59% 86.41% 58 0.83% 99.1 19 62.09% 37.91% 39 12.18% 87.82% 59 0.70% 99.3 20 58.86% 41.14% 40 10.88% 89.12% 60 0.59% 99.4	16	71.64%	28.36%	36	16.78%	83.22%	56	1.17%	98.83%
19 62.09% 37.91% 39 12.18% 87.82% 59 0.70% 99.30 20 58.86% 41.14% 40 10.88% 89.12% 60 0.59% 99.4	17	68.50%	31.50%	37	15.13%	84.87%	57	0.99%	99.01%
20 58.86% 41.14% 40 10.88% 89.12% 60 0.59% 99.4	18	65.31%	34.69%	38	13.59%	86.41%	58	0.83%	99.17%
	19	62.09%	37.91%	39	12.18%	87.82%	59	0.70%	99.30%
	20	58.86%	41.14%	40	10.88%	89.12%	60	0.59%	99.41%
	21	55.63%	44.37%	41	9.68%	90.32%			









网易云课堂 | 涨薪计划











PROBUGE BY DELEUSE



PRODUCE BY DEFEASE

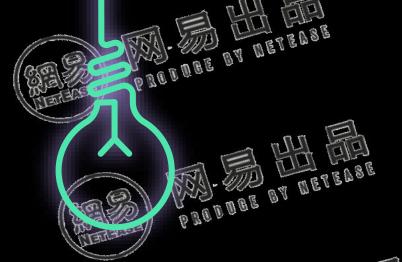




PROTUGE BY DEFEASE



PRODUCE OF DETERSE



PACTURE DY DEFENSE



PRODUCE BY DEVENSE



PRODUCE BY DELEUSE

100 ESS

