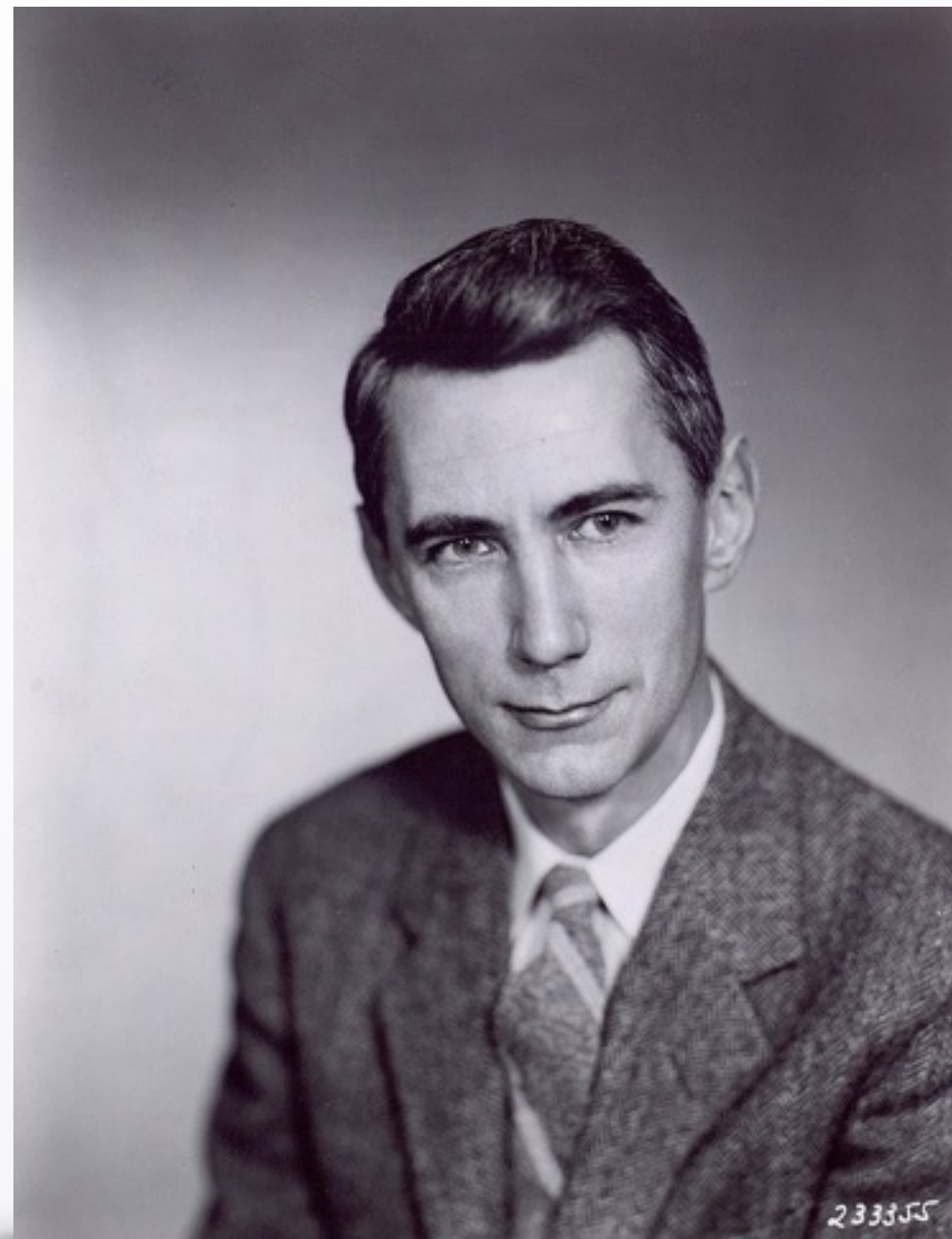


Generating Random Text

Introduction

Markov Text Generation

- Generating and recognizing text
 - Statistical and probabilistic models
 - Illustrate Java concepts with amusing program
 - Idea behind both PageRank and Machine Learning algorithms



Claude Shannon by Tekniska musseet /CC-by-2.0

Markov Text Generation

- Generating and recognizing text
 - Statistical and probabilistic models
 - Illustrate Java concepts with amusing program
 - Idea behind both PageRank and Machine Learning algorithms
- Random keys pressed
 - Per text typewriter!
 - After pressing 'a', ...
 - After pressing 't','h', ...



Random Text Generated

- Training data: Chancellor Angela Merkel to European Parliament: October 7, 2015



Angela Merkel by Marc Müller/CC-by-3.0

Random Text Generated

- Training data: Chancellor Angela Merkel to European Parliament: October 7, 2015
 - Order Zero text: lots of e's !

```
isceht rvecertpttrtird da ma na et,-neemE oFldktanevsH e ptanell  
Goonst upo isacinrt vecsrf,ewoseie esoeinr idcohi ndarrBifl0tisi  
pnohtntuoe trtps tegH cusvsheddniCrapliee n aimt tLe i ses t  
ose s
```


Random Text Generated

- Training data: Chancellor Angela Merkel to European Parliament: October 7, 2015
 - Order Zero text: lots of e's !
 - Order One: often pronounceable

y thalluckeope pen varod woplits Wardem s pastirkeoutancope
hearreceard whe t eorthisty thisuine fth idsistichatst-t worry tourees.
we odn blel brarnt Busaco t isow t-mope s bomepe inallve Eug re ad he

Random Text Generated

- Training data: Chancellor Angela Merkel to European Parliament: October 7, 2015
 - Order Zero text: lots of e's !
 - Order One: often pronounceable
 - Order Two: words and would-be words

Eurolace Justranage red uniont, valliameme valsold dincies.
Overe solvence in Pree ther to in whation werty. Frally, ing
hand propeals. But pot is man to hat to seessfulaus of unitions
terge for re v

Recognizing Random Text

- Recognizing text of different orders, part of work in SPAM filtering and more




Recognizing Random Text

- Recognizing text of different orders, part of work in SPAM filtering and more
 - Order Zero: not English?

v!at eaéscvig o a or mitor Mbr,è!rrigr!reden ea nnn l t(lr, é
e recl els oino mueEs d ln dcNz sioi mc'ievsséneresms i sgdleaibiuenrs
ucxrnaatMcza oidne!imscon,vretvnriveAauebcs Liuseue, a!anllne

Recognizing Random Text

- Recognizing text of different orders, part of work in SPAM filtering and more
 - Order Zero: not English?
 - Order One: possibly French



e es! Aue bita Ame, Foirez chouieronousomons mendeagurenousibre
apacie ons Acurtéfiesis t cilont darieie Matrmerous, lerout past
ougles! eureuvitrcc vrourin yrgounlons s los Auens s tosallas
es d

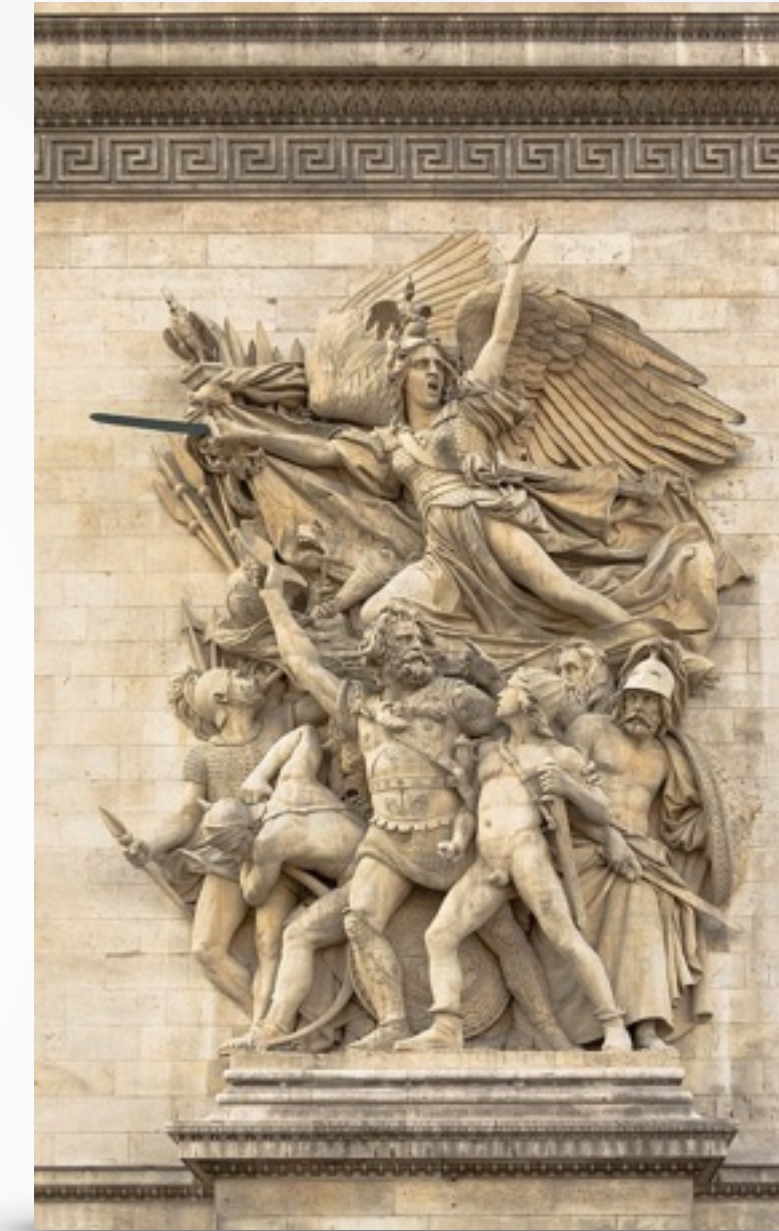
Recognizing Random Text

- Recognizing text of different orders, part of work in SPAM filtering and more
 - Order Zero: not English?
 - Order One: possibly French
 - Order Two: likely French

vos lang impur silloirer coux dannemis) Et es Voire pous. Bientrivé!
Mugirans dez-vos archont tre plus; Noux archons! Qu'un mâleuvents!
Qu'un mâle nos vos leuvec trie, chons férons! Nou dans de les
y

Recognizing Random Text

- Recognizing text of different orders, part of work in SPAM filtering and more
 - Order Zero: not English?
 - Order One: possibly French
 - Order Two: likely French
 - Order Three: La Marseillaise



Aux armes, Mugir ces féroces féroces suivre! Amour survivre!
Aux armes, citoyens! Formez vos bras Égorger nos fils, nos drapeaux,
que de gloire Accoure à tes ennent ton triomphe et notre nous
aurons

What You'll Learn

- Generalizing a concept and algorithm
 - From 0-order, 1-order to N-order
 - Developing a Java Interface
- Capturing Abstractions in Java
 - Understanding design and testing
 - Understanding efficiency
- Software engineering knowledge and skills
 - Practical and transferable experience