



# CODENAMES

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# BRIEF INTRO

Codenames is a fun and challenging social word game with a simple premise. Two rival spymasters know the secret identities of 25 agents. Their teammates know the agents only by their CODENAMES. Teams compete to contact all of their agents first.

In this project the main purpose was to show that our electronic friend computer can also be a good Spymaster :)



# DEV TECH

Front: HTML5/CSS3, JQuery

Backend: Python, Flask

Game logic: Python Data Science Stack (Scipy, Numba, Numpy)



# GAME LOGIC

- Monte Carlo Simulation
- Cos Similarity

$$\text{similarity} = \cos(\theta) = \frac{\mathbf{A} \cdot \mathbf{B}}{\|\mathbf{A}\| \|\mathbf{B}\|} = \frac{\sum_{i=1}^n A_i B_i}{\sqrt{\sum_{i=1}^n A_i^2} \sqrt{\sum_{i=1}^n B_i^2}},$$

# GAME

Reset

9 - 8

australia

date

bill

moscow

fly

fork

tokyo

straw

gold

jam

ray

heart

chest

teacher

pipe

atlantis

tower

cover

witch

oil

foot

washer

wave

jupiter

canada

Clue: january (2)

Guess!

# GAME

Reset

6 - 8

file

note

plot

swing

link

drop

racket

pistol

snowman

washer

wave

slip

moscow

hook

sound

cap

giant

wake

centaur

africa

degree

staff

beat

superhero

australia

Clue: documents (2)

Clue is creating \_

# GAME

Reset

0 - 0

file

note

plot

swing

link

drop

racket

pistol

snowman

washer

wave

slip

moscow

hook

sound

cap

giant

wake

centaur

africa

degree

staff

beat

superhero

australia

Clue: story (1)

You lose {