<https://www.kaggle.com/code/techlyx/alzheimer-features-data-exploration-yx-knn/data>

<https://www.acs.org/about/diversity/inclusivity-style-guide/socioeconomic-status.html#when-and-how-to-refer-to-socioeconomic-status-groups>

[Intracranial Volume and Alzheimer Disease](https://jamanetwork.com/journals/jamaneurology/fullarticle/775990)

[Whole-brain atrophy rate in Alzheimer disease](https://n.neurology.org/content/70/19_Part_2/1836)

[Classification of Alzheimer’s Disease with and without Imagery Using Gradient Boosted Machines and ResNet-50](https://www.mdpi.com/2076-3425/9/9/212/htm)

* Comparing Data sets to other research on Alzheimer Patients

Abstract:

**Categories**

**Male - Female**

**Age**

**Years of Education**

**Socioeconomic Status**

**Mini Mental State Examination**

* Source: <https://patient.info/doctor/mini-mental-state-examination-mmse>
* 30 point questionnaire to measure cognitive impairment
* 25+ is normal
* 21-24 shows mild signs
* 10-20 shows moderate signs
* Under 10 shows severe impairment

**Estimated total intracranial volume**

* Volume of the cranial cavity (Space around the brain)
* Gives rough estimation of brain size
* For context
  + Men: 1469 +/- 102 cm^3
  + Women: 1289 +/- 111 cm^3

**Normalize Whole Brain Volume**

* Volume of brain
* For context
  + Men: 1262 mL ± 113
  + Women: 1123 mL ± 810
* Normalize Volumes
  + Men: 0.84 ± 0.05
  + Women: 0.85 ±0.05

**Atlas Scaling Factor**

* [**Facts on ASF**](https://pubmed.ncbi.nlm.nih.gov/15488422/) **(Might use)**
* [**Definition**](https://www.sciencedirect.com/science/article/abs/pii/S1053811904003271)

**Questions:**

1. What factors contribute to the patients’ degenerative Alzheimer's condition?
2. Does the volume of the brain correlate to the degenerative of an Alzheimer patient’s condition?

Using scale from 0-1

Age

* Min: 60
* Max: 98
  + 60 – 0.2
  + 70 – 0.4
  + 80 – 0.6
  + 90 – 0.8
  + 100 – 1

SES

* Min: 1
* Max: 5
  + 1 – 0.2
  + 2 – 0.4
  + 3 – 0.6
  + 4 – 0.8
  + 5 – 1

EDUC

* Min: 6
* Max: 23

For determining importance feature for knn, I’ll do at home

<https://www.youtube.com/watch?v=IhSWvwmpwTU>