# ADNI Dataset

Predicting Alzheimer's Disease given a MCI patient's characteristics

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#### Load Data Set

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library(ADNIMERGE)
data(adnimerge)
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#### **Data Cleaning**

We are subsetting to baseline visits only here.

### **Data Imputation**

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# **Exploratory Analysis**

# **Summary Statistics**

Characteristic	0, N = 1,586	1, N = 425
Participant roster ID	4,623 (2,036, 6,329)	1,243 (626, 4,415)
Sex		
Female	795 (50%)	176 (41%)
Male	791 (50%)	249 (59%)
Age	72 (67, 77)	74 (70, 79)
Education	16.00 (14.00, 18.00)	16.00 (14.00, 18.00)
Marital		
Divorced	185 (12%)	27~(6.4%)
Married	1,133~(71%)	340 (80%)
Never married	78 (4.9%)	9~(2.1%)
Unknown	9~(0.6%)	0 (0%)
Widowed	180 (11%)	49 (12%)
Unknown	1	0
Baseline Dx		
CN	510 (32%)	33~(7.8%)
SMC	348 (22%)	6 (1.4%)
EMCI	357 (23%)	66 (16%)
LMCI	371 (23%)	320~(75%)
AD	0 (0%)	0 (0%)
CDR-SB	$0.00 \ (0.00, \ 1.00)$	$1.50 \ (1.00, \ 2.50)$
FAQ	$0.00 \ (0.00, \ 1.00)$	$3.00\ (1.00,\ 7.00)$
MMSE	$29.00 \ (28.00, \ 30.00)$	$27.00\ (26.00,\ 29.00)$
ADAS 11	6.7 (4.0, 9.0)	$11.3 \ (8.7, 15.0)$
ADAS 13 (including Delayed Word Recall and Number	10 (7, 15)	20 (15, 24)
Cancellation) ADAS Delayed Word Recall	$3.00\ (2.00,\ 5.00)$	7.00 (5.00, 9.00)

Characteristic	<b>0</b> ,  N = 1,586	1, N = 425
RAVLT Immediate (sum of 5 trials)	41 (34, 50)	29 (24, 35)
RAVLT Learning (trial 5 - trial 1)	5.00 (4.00, 7.00)	$3.00\ (2.00,\ 5.00)$
RAVLT Forgetting (trial 5 - delayed)	$4.00\ (2.00,\ 6.00)$	5.00 (3.00, 6.00)
RAVLT Percent Forgetting	40 (20, 64)	80 (50, 100)
Logical Memory - Delayed Recall	$10.0\ (7.0,\ 13.0)$	$4.0\ (1.0,\ 8.0)$
Trails B	78 (60, 105)	109 (78, 158)

# Data Visualization