Numpy cheatsheet

Array Creation

np.array([1,2,3]) # 1D array

np.zeros((2,3)) # Zeros

np.ones((2,3)) # Ones

np.arange(0,10,2) # Range

np.linspace(0,1,5) # 5 evenly spaced

np.random.rand(2,3) # Random uniform

np.random.randint(0,10,(3,3)) # Random integers

Array Operations

a+b, a-b, a\*b, a/b

np.dot(a,b) # Dot product

a @ b # Matrix multiplication

Aggregations

arr.min(), arr.max()

arr.sum(), arr.mean()

arr.std(), arr.var()

np.median(arr)

Indexing & Slicing

arr[0], arr[-1]

arr[1:4], arr[:3], arr[::2]

mat[:,1], mat[1,:]

mat[0:2,0:2]

Reshape & Stack

arr.reshape(3,2)

arr.flatten()

np.vstack((a,b))

np.hstack((a,b))

Linear Algebra

np.linalg.det(mat)

np.linalg.inv(mat)

np.linalg.eig(mat)

np.linalg.solve(A,b)

File I/O

np.save("file.npy", arr)

np.load("file.npy")

np.savetxt("file.csv", arr, delimiter=",")

np.loadtxt("file.csv", delimiter=",")