Scalar : serifs, non-bold
$a, \alpha, \gamma, x, \xi, y, z$

Vectors : serifs, bold
$\boldsymbol{a} = a_i, \boldsymbol{\alpha}, \boldsymbol{\gamma}, \boldsymbol{x}, \boldsymbol{\xi}, \boldsymbol{y}, \boldsymbol{z}, \ldots$

Matrix : serifs, bold, (uppercase)
$\boldsymbol{A} = A_{ij}, \boldsymbol{\Gamma}, \boldsymbol{X}, \boldsymbol{\Xi}, \boldsymbol{Y}, \boldsymbol{Z}, \ldots$

Tensor : sans-serifs, bold, upper case
$\boldsymbol{\mathsf{A}} = A_{ijk}, \boldsymbol{\mathsf{X}}, \boldsymbol{\mathsf{Y}}, \boldsymbol{\mathsf{Z}}, \ldots$

Random variable/vector : serifs, non-bold, uppercase
$A = A_i, X, Y, Z, \ldots$

Sets using mathbb command
$\mathbb{C}, \mathbb{R}, \mathbb{N}, \mathbb{Z}$