

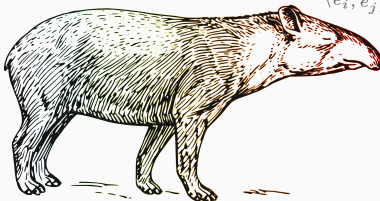
# Mathematics and Computer Science (B.MES.108)

## Summer Semester, 2020

### Part 1: Linear Algebra for Non-Mathematicians

Peleg Bar Sapir

$$\begin{aligned}
 (AB)^T &= B^T A^T & \mathbb{R}^n &\xrightarrow{T} \mathbb{R}^m \\
 \vec{v} &= \sum_{i=1}^n \alpha_i \hat{e}_i & A &= Q \Lambda Q^{-1} \\
 \text{Rot}(\theta) &= \begin{bmatrix} \cos(\theta) & -\sin(\theta) \\ \sin(\theta) & \cos(\theta) \end{bmatrix} & A\vec{v} &= \lambda\vec{v} \\
 T(\alpha\vec{u} + \beta\vec{v}) &= \alpha T(\vec{u}) + \beta T(\vec{v}) & \langle \hat{e}_i, \hat{e}_j \rangle &= \delta_{ij}
 \end{aligned}$$



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