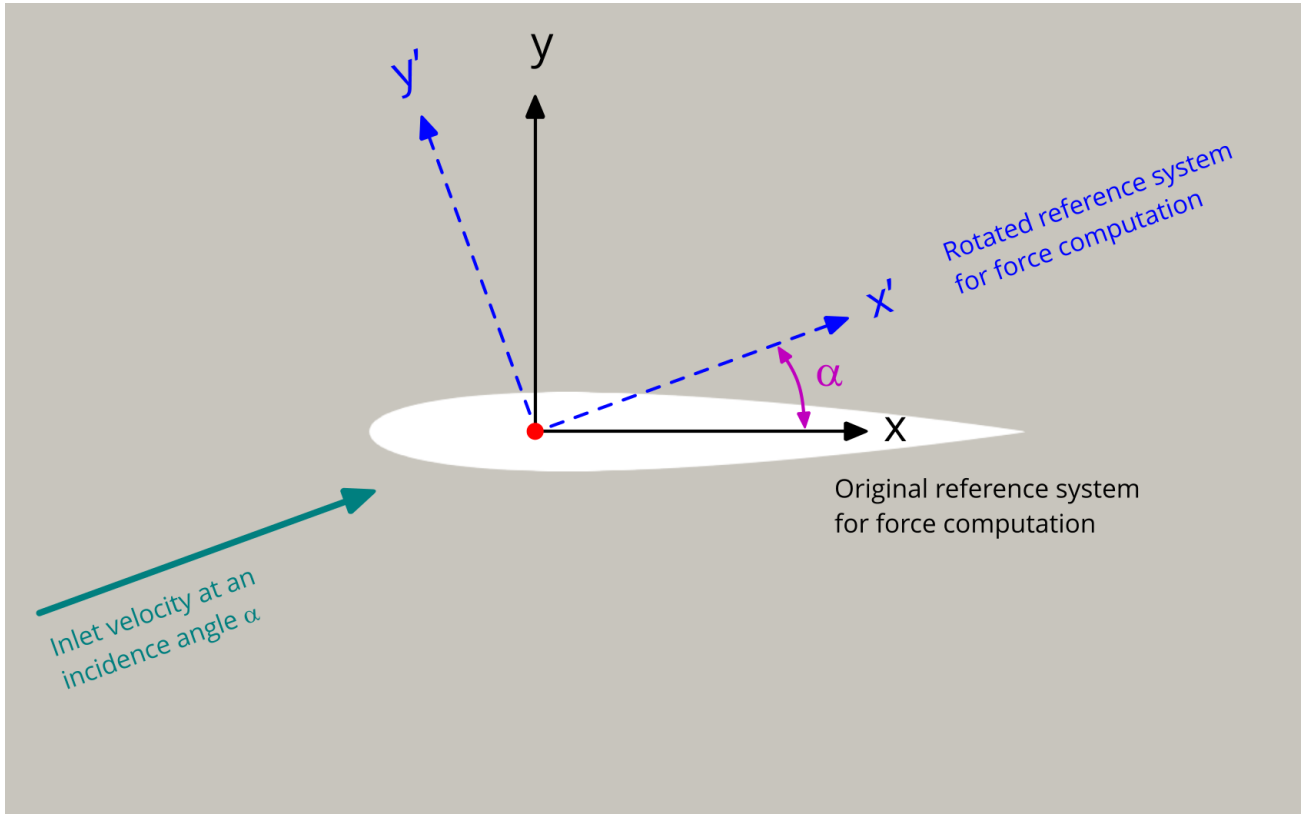
Rotation matrix for lift and drag

- Remember, lift and drag are perpendicular and parallel to the incoming flow, respectively.
- So, if the inlet velocity is entering at a given angle, you should adjust the vectors **liftDir** and **dragDir** so they are aligned with the incoming flow (rotation matrix).
- You should define this transformation when computing the lift and drag coefficients.



$$\text{liftDir } (\text{-}\sin(\alpha), \cos(\alpha), 0)$$

$$\text{dragDir } (\cos(\alpha), \sin(\alpha), 0)$$