

# CFD Notes

Michael Dizon

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# Chapter 1

## Fluid Dynamics — Aerodynamics

Based on Fundamentals of Aerodynamics by Anderson

### 1.1 Fundamental Principles

#### 1.1.1 Aerodynamic Forces and Moments

Aerodynamics forces and moments on a body are only due to two main sources

1. Pressure Distribution:  $\rho$
2. Shear Stress Distribution:  $\tau$

Surface Pressure is normal, think negative flux, while shear stress is tangential to the surface cause by the friction between the body and the air.