My Entrepreneurial Elevator Speech:

My specialty is Kalman Filter-like theory and applications, which involve software algorithms that process measurements from sensors (perhaps more than one, with different types of measurements, with different [specified] levels of noise corruption, and different sampling rates) in order to track object(s), whose time-varying dynamics are described by **O**rdinary **D**ifferential **E**quations (**ODE**'s), reflecting the physical laws acting upon the objects, which can sometimes be central forces of gravity or control actions related to its propulsion. Usually target tracking of an enemy (for DoD) or of cooperative platforms (for FAA) or in performing calculations supporting the navigation function for a particular platform so it knows where it is and can then figure out how to get where it wants to be, or how to launch its weapons at a threatening enemy platform or country, if called upon to do so. Outputs can also be used with multi-target tracking.

I am sometimes asked to select the sensors to be used for a particular application and the requisite sampling rates (i.e., data rates) to support mission goals. Other times, the client already knows what they want to use for their application.

I have performed design and processing for air-borne, land-based vehicle, pedestrian, and submarine and other ship-borne applications.

All NASA applications use Kalman filter algorithms too for tracking their "birds", space vehicles, and space objects. They also use Kalman filters for navigation (and guidance laws). DoD uses MORE Kalman filters than NASA since they have MORE applications and MORE platforms. I have worked directly in Kalman filter applications since 1973 to the present. Some aspects are classified for DoD applications.