CLAIMS

I/We claim:

1. A firearm (100) that automatically controls the release of bullets, comprising:

one or more sensors (151) that are configured to provide real-time image data of the view in front of the firearm (100);

a computer (150) that is configured to identify legitimate targets (162) in the real-time image data, without user intervention;

a trigger sensor (135) that is configured to directly or indirectly determine if the trigger (120) is engaged;

wherein as long as the trigger (120) is engaged, the firearm (100) is configured to continuously acquire real-time sensor data, identify legitimate targets (162) and automatically release bullets when the firearm (100) predicts that the target (162) will be hit; and characterized in that

the legitimate targets (162) are identified automatically, by the computer (150), in the real-time image data even if said legitimate targets (162) did not appear in the real-time image data when the trigger (120) was initially engaged.

2. The firearm (100) according to claim 1, wherein the firearm (100) is configured to release a first bullet immediately when the trigger (120) is engaged by the user.

3. The firearm (100) according to claim 1, wherein the firearm (100) is configured to first identify targets (162) before releasing a first bullet.

4. The firearm (100) according to any one of the preceding claims, wherein the one or more sensors (151) include a camera, an infrared sensor, an acoustic sensor, an RF sensor, a Radar or a Lidar.

5. The firearm (100) according to any one of the preceding claims, wherein the firearm (100) includes a status sensor (154) that is configured to sample lighting or

visibility of the view or image data and select a sensor from the one or more sensors (151) responsive to measurements of the status sensor (154).

6. The firearm (100) according to any one of the preceding claims, wherein the firearm (100) is configured to use two or more different types of sensors (151) for acquiring real-time image data to enhance accuracy.

7. The firearm (100) according to any one of the preceding claims, wherein the targets (162) identified as legitimate, include targets (162) that are designated by a device external to the firearm (100).

8. The firearm (100) according to any one of the preceding claims, wherein the firearm (100) includes a mode selector (140) configured to activate a learning mode (148) in which a user teaches the firearm what are legitimate targets or what are non-legitimate targets.

9. The firearm (100) according to any one of the preceding claims, wherein the firearm (100) is preconfigured or selectable to release bullets toward less-lethal areas (164) on the target (162).

10. The firearm (100) according to any one of the preceding claims, wherein the firearm (100) is preconfigured selectable to release bullets toward lethal areas (163) on the target (162).

11. The firearm (100) according to any one of the preceding claims, wherein the computer (150) includes a firing window module (155) that is configured to calculate when to release a bullet for each shot so the target (162) will be hit based on one or more of the following: a status of the firearm (100), environmental factors, a ballistic solution, a bullet firing delay, position and/or motion of the target (162) relative to the barrel (110) of the firearm (100) and motion of the firearm (100) relative to the target (162).

12. The firearm (100) according to claim 1, wherein the firing window size is adapted to the stability of the user and/or target motion, to increase probability of hitting the target (162).

13. A method of controlling the release of bullets from a firearm (100) according to any one of the preceding claims, comprising:

engaging a trigger (120) of the firearm (100);

determining if the trigger (120) is engaged using a trigger sensor (135) that directly or indirectly determines if the trigger (120) is engaged;

as long as the trigger (120) is engaged continuously acquiring with one or more sensors (151) real-time image data of the view in front of the firearm (100);

automatically identifying with a computer (150), legitimate targets (162) in the real-time sensor data, without user intervention;

automatically releasing bullets when the firearm (100) is directed toward the identified target (162);

characterized in that legitimate targets (162) are identified automatically, by the computer (150), in the real-time image data even if said legitimate target (162) did not appear in the real-time image data when the trigger (120) was initially engaged.