

CLAIMS**WHAT IS CLAIMED IS:**

1. A computer-implemented method of determining a spoofing attempt by a user during a request to access a resource via a mobile device having a screen and a front facing camera, the method comprising:
 - (a) receiving a user eye gaze profile comprising a registration eye gaze image of the user, wherein the registration eye gaze image is associated with a registration display location;
 - (b) displaying an authentication eye gaze icon, wherein the authentication eye gaze icon is displayed in an authentication display location on the screen of the mobile phone;
 - (c) determining that the user's gaze is directed towards the authentication display location of the authentication gaze icon during the display of the authentication eye gaze icon;
 - (d) capturing an authentication eye gaze image of the user, wherein the authentication eye gaze image is captured during the display of the authentication gaze icon; and
 - (e) determining that a spoofing attempt has occurred if the authentication eye gaze image has a similarity below an authentication threshold with the registration eye gaze images associated with the registration display location that is equivalent to the authentication display location of the authentication eye gaze image.
2. The method of any claim, wherein displaying the authentication eye gaze icon comprises displaying a sequence of two or more authentication eye gaze icons.
3. The method of any claim, wherein the sequence of the two or more authentication eye gaze icons is a random sequence.
4. The method of any claim, wherein the authentication display location of the sequence of the two or more authentication eye gaze icons is a randomized location.
5. The method of any claim, wherein the sequence of two or more authentication eye gaze icons is unknown to the user.
6. The method of any claim, wherein the user's gaze is determined to be directed towards the authentication display location by a machine learning algorithm.

7. The method of any claim, wherein the authentication display location is at a corner of the screen of the mobile device.
8. The method of any claim, further comprising displaying a live video feed on the screen of the mobile device, wherein the live video feed comprises a live video feed captured by the front facing camera.
9. The method of any claim, wherein the live video feed is overlaid with an image of a face positioning region.
10. The method of any claim, further comprising determining that the user's face is at least partially displayed within the face positioning region.
11. The method of any claim, wherein the user's eye gaze profile is registered by:
 - (a) displaying a registration eye gaze icon, wherein the registration eye gaze icon is displayed in a different registration display location on the screen of the mobile phone;
 - (b) determining that the user's gaze is directed towards the registration display location of each registration gaze icon during the display of each registration eye gaze icon;
 - (c) capturing the registration eye gaze image of the user, wherein the registration eye gaze image is captured during the display of the registration gaze icon; and
 - (d) creating the user's eye gaze profile comprising the captured registration eye gaze images of the user during the display of the registration gaze icon, wherein each captured registration eye gaze image is associated with the registration display location of the registration gaze icon.
12. The method of any claim, wherein displaying the registration eye gaze icon comprises displaying a sequence of two or more registration eye gaze icons.
13. The method of any claim, wherein the sequence of the two or more registration eye gaze icons is a random sequence.
14. The method of any claim, wherein the registration display location of the sequence of the two or more registration eye gaze icons is a randomized location.
15. The method of any claim, wherein the registration display location is a corner of the screen of the mobile device.

16. The method of any claim, further comprising displaying a live video feed on the screen of the mobile device, wherein the live video feed comprises a live video feed captured by the front facing camera.
17. The method of any claim, wherein the live video feed is overlaid with an image of a face positioning region.
18. The method of any claim, further comprising determining that the user's face is at least partially displayed within the face positioning region.
19. The method of any claim, wherein the number of registration eye gaze images in the registration eye gaze image is greater than the number of authentication eye gaze images in the series of authentication eye gaze images.
20. The method of any claim, wherein the authentication eye gaze icon, the registration eye gaze icon, or both is a geometric shape, an irregular shape, or an image.
21. The method of any claim, wherein the authentication eye gaze icon, the registration eye gaze icon, or both is displayed for an icon display period.
22. The method of any claim, wherein the icon display period is about 0.01 seconds to about 60 seconds.
23. The method of any claim, wherein the authentication eye gaze icon, the registration eye gaze icon, or both comprises an indicator associated with the amount of time remaining in the icon display period, or an amount of time lapsed during the icon display period.
24. The method of any claim, wherein the indicator comprises a number of seconds, a dynamic pie chart, a dynamic bar chart, a size of the authentication eye gaze icon, a color of the authentication eye gaze icon, or any combination thereof.
25. The method of any claim, wherein the authentication eye gaze icon, the registration eye gaze icon, or both comprise a display of a single eye gaze icon.
26. The method of any claim, wherein the authentication eye gaze icon, the registration eye gaze icon, or both is static with respect to the mobile phone.
27. The method of any claim, wherein the registration display location is a top-right corner, a top-left corner, a bottom-right corner, a bottom-left corner, a top side, a bottom side, a right side, or a left side of the screen of the mobile device.

28. The method of any claim, wherein the authentication display location is a top-right corner, a top-left corner, a bottom-right corner, a bottom-left corner, a top side, a bottom side, a right side, or a left side of the screen of the mobile device.
29. The method of any claim, further comprising displaying a notification if at least a majority of the user's face is displayed outside the face positioning region, if the user's gaze is determined to be directed away from the registration display location of each registration gaze icon during the display of each registration eye gaze icon, or both.
30. The method of any claim, further comprising displaying a notification if at least a majority of the user's face is displayed outside the face positioning region for a notification period, if the user's gaze is determined to be directed away from the registration display location of each registration gaze icon during the display of each registration eye gaze icon for the notification period, or both.
31. The method of any claim, further comprising terminating the registration of the user's eye gaze profile if at least a majority of the user's face is displayed outside the face positioning region, if the user's gaze is determined to be directed away from the registration display location of at least one registration gaze icon during the display of each registration eye gaze icon, or both.
32. The method of any claim, further comprising terminating the registration of the user's eye gaze profile if at least a majority of the user's face is displayed outside the face positioning region for a termination period, if the user's gaze is determined to be directed away from the registration display location of each registration gaze icon during the display of at least one registration eye gaze icon for the termination period, or both.
33. The method of any claim, further comprising requesting a user name, an identification parameter, or both and associating the user name, the identification parameter, or both with the user's eye gaze profile.
34. The method of any claim, further comprising requesting a registration confirmation by the user before creating the user's eye gaze profile.
35. The method of any claim, further comprising notifying the user to position their face with respect to the mobile devices such that their face is at least partially displayed within the face positioning region.
36. The method of any claim, further comprising notifying the user to gaze at the registration eye gaze icon.

37. The method of any claim, further comprising displaying a notification if at least a majority of the user's face is displayed outside the face positioning region, if the user's gaze is determined to be directed away from the authentication display location of each authentication gaze icon during the display of each authentication eye gaze icon, or both.
38. The method of any claim, further comprising displaying a notification if at least a majority of the user's face is displayed outside the face positioning region for a notification period, if the user's gaze is determined to be directed away from the authentication display location of each authentication gaze icon during the display of each authentication eye gaze icon for the notification period, or both.
39. The method of any claim, further comprising denying the request to access the resource if at least a majority of the user's face is displayed outside the face positioning region, if the user's gaze is determined to be directed away from the authentication display location of at least one authentication gaze icon during the display of each authentication eye gaze icon, or both.
40. The method of any claim, further comprising denying the request to access the resource if at least a majority of the user's face is displayed outside the face positioning region for a termination period, if the user's gaze is determined to be directed away from the authentication display location of each authentication gaze icon during the display of at least one authentication eye gaze icon for the termination period, or both.
41. The method of any claim, further comprising requesting a user name, an identification parameter, or both and associating the user name, the identification parameter, or both with the user's eye gaze profile.
42. The method of any claim, further comprising requesting an authentication confirmation by the user before granting access for the user to the resource.
43. The method of any claim, further comprising notifying the user to position their face with respect to the mobile devices such that their face is at least partially displayed within the face positioning region.
44. The method of any claim, further comprising notifying the user to gaze at the authentication eye gaze icon.
45. The method of any claim, further comprising determining if at least a portion of the user's face is occluded by a mask.

46. A computer-implemented system comprising: a digital processing device comprising: at least one processor, an operating system configured to perform executable instructions, a memory, and a computer program including instructions executable by the digital processing device to create an application to determine a spoofing attempt by a user during a request to access a resource via a mobile device having a screen and a front facing camera, the application comprising:
- (a) a module receiving a user eye gaze profile comprising a registration eye gaze image of the user, wherein each registration eye gaze image is associated with a registration display location;
 - (b) a module displaying an authentication eye gaze icon, wherein the authentication eye gaze icon is displayed in a different authentication display location on the screen of the mobile phone;
 - (c) a module determining that the user's gaze is directed towards the authentication display location of each authentication gaze icon during the display of each authentication eye gaze icon;
 - (d) a module capturing an authentication eye gaze image of the user, wherein the authentication eye gaze image is captured during the display of the authentication gaze icon; and
 - (e) a module determining that a spoofing attempt has occurred if the authentication eye gaze image has a similarity below an authentication threshold with one of the registration eye gaze images associated with the registration display location that is equivalent to the authentication display location of the authentication eye gaze image.
47. The system of any claim, wherein displaying the authentication eye gaze icon comprises displaying a sequence of two or more authentication eye gaze icons.
48. The system of any claim, wherein the sequence of the two or more authentication eye gaze icons is a random sequence.
49. The system of any claim, wherein the authentication display location of the sequence of the two or more authentication eye gaze icons is a randomized location.
50. The system of any claim, wherein the sequence of two or more authentication eye gaze icons is unknown to the user.

51. The system of any claim, wherein the user's gaze is determined to be directed towards the authentication display location by a machine learning algorithm.
52. The system of any claim, wherein the authentication display location is at a corner of the screen of the mobile device.
53. The system of any claim, further comprising a module displaying a live video feed on the screen of the mobile device, wherein the live video feed comprises a live video feed captured by the front facing camera.
54. The system of any claim, wherein the live video feed is overlaid with an image of a face positioning region.
55. The system of any claim, further comprising a module determining that the user's face is at least partially displayed within the face positioning region.
56. The system of any claim, wherein the user's eye gaze profile is registered by:
 - (a) displaying a registration eye gaze icon, wherein the registration eye gaze icon is displayed in a different registration display location on the screen of the mobile phone;
 - (b) determining that the user's gaze is directed towards the registration display location of each registration gaze icon during the display of each registration eye gaze icon;
 - (c) capturing the registration eye gaze image of the user, wherein the registration eye gaze image is captured during the display of the registration gaze icon; and
 - (d) creating the user's eye gaze profile comprising the captured registration eye gaze images of the user during the display of the registration gaze icon, wherein each captured registration eye gaze image is associated with the registration display location of the registration gaze icon.
57. The system of any claim, wherein displaying the registration eye gaze icon comprises displaying a sequence of two or more registration eye gaze icons.
58. The system of any claim, wherein the sequence of the two or more registration eye gaze icons is a random sequence.
59. The system of any claim, wherein the registration display location of the sequence of the two or more registration eye gaze icons is a randomized location.

60. The system of any claim, wherein the registration display location is a corner of the screen of the mobile device.
61. The system of any claim, further comprising a module displaying a live video feed on the screen of the mobile device, wherein the live video feed comprises a live video feed captured by the front facing camera.
62. The system of any claim, wherein the live video feed is overlaid with an image of a face positioning region.
63. The system of any claim, further comprising a module determining that the user's face is at least partially displayed within the face positioning region.
64. The system of any claim, wherein the number of registration eye gaze images in the registration eye gaze image is greater than the number of authentication eye gaze images in the series of authentication eye gaze images.
65. The system of any claim, wherein the authentication eye gaze icon, the registration eye gaze icon, or both is a geometric shape, an irregular shape, or an image.
66. The system of any claim, wherein the authentication eye gaze icon, the registration eye gaze icon, or both is displayed for an icon display period.
67. The system of any claim, wherein the icon display period is about 0.01 seconds to about 60 seconds.
68. The system of any claim, wherein the authentication eye gaze icon, the registration eye gaze icon, or both comprises an indicator associated with the amount of time remaining in the icon display period, or an amount of time lapsed during the icon display period.
69. The system of any claim, wherein the indicator comprises a number of seconds, a dynamic pie chart, a dynamic bar chart, a size of the authentication eye gaze icon, a color of the authentication eye gaze icon, or any combination thereof.
70. The system of any claim, wherein the authentication eye gaze icon, the registration eye gaze icon, or both comprise a display of a single eye gaze icon.
71. The system of any claim, wherein the authentication eye gaze icon, the registration eye gaze icon, or both is static with respect to the mobile phone.
72. The system of any claim, wherein the registration display location is a top-right corner, a top-left corner, a bottom-right corner, a bottom-left corner, a top side, a bottom side, a right side, or a left side of the screen of the mobile device.

73. The system of any claim, wherein the authentication display location is a top-right corner, a top-left corner, a bottom-right corner, a bottom-left corner, a top side, a bottom side, a right side, or a left side of the screen of the mobile device.
74. The system of any claim, further comprising a module displaying a notification if at least a majority of the user's face is displayed outside the face positioning region, if the user's gaze is determined to be directed away from the registration display location of each registration gaze icon during the display of each registration eye gaze icon, or both.
75. The system of any claim, further comprising a module displaying a notification if at least a majority of the user's face is displayed outside the face positioning region for a notification period, if the user's gaze is determined to be directed away from the registration display location of each registration gaze icon during the display of each registration eye gaze icon for the notification period, or both.
76. The system of any claim, further comprising a module terminating the registration of the user's eye gaze profile if at least a majority of the user's face is displayed outside the face positioning region, if the user's gaze is determined to be directed away from the registration display location of at least one registration gaze icon during the display of each registration eye gaze icon, or both.
77. The system of any claim, further comprising a module terminating the registration of the user's eye gaze profile if at least a majority of the user's face is displayed outside the face positioning region for a termination period, if the user's gaze is determined to be directed away from the registration display location of each registration gaze icon during the display of at least one registration eye gaze icon for the termination period, or both.
78. The system of any claim, further comprising a module requesting a user name, an identification parameter, or both and associating the user name, the identification parameter, or both with the user's eye gaze profile.
79. The system of any claim, further comprising a module requesting a registration confirmation by the user before creating the user's eye gaze profile.
80. The system of any claim, further comprising a module notifying the user to position their face with respect to the mobile devices such that their face is at least partially displayed within the face positioning region.
81. The system of any claim, further comprising a module notifying the user to gaze at the registration eye gaze icon.

82. The system of any claim, further comprising a module displaying a notification if at least a majority of the user's face is displayed outside the face positioning region, if the user's gaze is determined to be directed away from the authentication display location of each authentication gaze icon during the display of each authentication eye gaze icon, or both.
83. The system of any claim, further comprising a module displaying a notification if at least a majority of the user's face is displayed outside the face positioning region for a notification period, if the user's gaze is determined to be directed away from the authentication display location of each authentication gaze icon during the display of each authentication eye gaze icon for the notification period, or both.
84. The system of any claim, further comprising a module denying the request to access the resource if at least a majority of the user's face is displayed outside the face positioning region, if the user's gaze is determined to be directed away from the authentication display location of at least one authentication gaze icon during the display of each authentication eye gaze icon, or both.
85. The system of any claim, further comprising a module denying the request to access the resource if at least a majority of the user's face is displayed outside the face positioning region for a termination period, if the user's gaze is determined to be directed away from the authentication display location of each authentication gaze icon during the display of at least one authentication eye gaze icon for the termination period, or both.
86. The system of any claim, further comprising a module requesting a user name, an identification parameter, or both and associating the user name, the identification parameter, or both with the user's eye gaze profile.
87. The system of any claim, further comprising a module requesting an authentication confirmation by the user before granting access for the user to the resource.
88. The system of any claim, further comprising a module notifying the user to position their face with respect to the mobile devices such that their face is at least partially displayed within the face positioning region.
89. The system of any claim, further comprising a module notifying the user to gaze at the authentication eye gaze icon.
90. The system of any claim, further comprising a module determining if at least a portion of the user's face is occluded by a mask.

91. A non-transitory computer-readable storage media encoded with a computer program including instructions executable by a processor to create an application to determine a spoofing attempt by a user during a request to access a resource via a mobile device having a screen and a front facing camera, the application comprising:
- (a) a module receiving a user eye gaze profile comprising a registration eye gaze image of the user, wherein each registration eye gaze image is associated with a registration display location;
 - (b) a module displaying an authentication eye gaze icon, wherein the authentication eye gaze icon is displayed in a different authentication display location on the screen of the mobile phone;
 - (c) a module determining that the user's gaze is directed towards the authentication display location of each authentication gaze icon during the display of each authentication eye gaze icon;
 - (d) a module capturing an authentication eye gaze image of the user, wherein the authentication eye gaze image is captured during the display of the authentication gaze icon; and
 - (e) a module determining that a spoofing attempt has occurred if the authentication eye gaze image has a similarity below an authentication threshold with one of the registration eye gaze images associated with the registration display location that is equivalent to the authentication display location of the authentication eye gaze image.
92. The media of any claim, wherein displaying the authentication eye gaze icon comprises displaying a sequence of two or more authentication eye gaze icons.
93. The media of any claim, wherein the sequence of the two or more authentication eye gaze icons is a random sequence.
94. The media of any claim, wherein the authentication display location of the sequence of the two or more authentication eye gaze icons is a randomized location.
95. The media of any claim, wherein the sequence of two or more authentication eye gaze icons is unknown to the user.
96. The media of any claim, wherein the user's gaze is determined to be directed towards the authentication display location by a machine learning algorithm.

97. The media of any claim, wherein the authentication display location is at a corner of the screen of the mobile device.
98. The media of any claim, further comprising a module displaying a live video feed on the screen of the mobile device, wherein the live video feed comprises a live video feed captured by the front facing camera.
99. The media of any claim, wherein the live video feed is overlaid with an image of a face positioning region.
100. The media of any claim, further comprising a module determining that the user's face is at least partially displayed within the face positioning region.
101. The media of any claim, wherein the user's eye gaze profile is registered by:
- (a) displaying a registration eye gaze icon, wherein the registration eye gaze icon is displayed in a different registration display location on the screen of the mobile phone;
 - (b) determining that the user's gaze is directed towards the registration display location of each registration gaze icon during the display of each registration eye gaze icon;
 - (c) capturing the registration eye gaze image of the user, wherein the registration eye gaze image is captured during the display of the registration gaze icon; and
 - (d) creating the user's eye gaze profile comprising the captured registration eye gaze images of the user during the display of the registration gaze icon, wherein each captured registration eye gaze image is associated with the registration display location of the registration gaze icon.
102. The media of any claim, wherein displaying the registration eye gaze icon comprises displaying a sequence of two or more registration eye gaze icons.
103. The media of any claim, wherein the sequence of the two or more registration eye gaze icons is a random sequence.
104. The media of any claim, wherein the registration display location of the sequence of the two or more registration eye gaze icons is a randomized location.
105. The media of any claim, wherein the registration display location is a corner of the screen of the mobile device.

106. The media of any claim, further comprising a module displaying a live video feed on the screen of the mobile device, wherein the live video feed comprises a live video feed captured by the front facing camera.
107. The media of any claim, wherein the live video feed is overlaid with an image of a face positioning region.
108. The media of any claim, further comprising a module determining that the user's face is at least partially displayed within the face positioning region.
109. The media of any claim, wherein the number of registration eye gaze images in the registration eye gaze image is greater than the number of authentication eye gaze images in the series of authentication eye gaze images.
110. The media of any claim, wherein the authentication eye gaze icon, the registration eye gaze icon, or both is a geometric shape, an irregular shape, or an image.
111. The media of any claim, wherein the authentication eye gaze icon, the registration eye gaze icon, or both is displayed for an icon display period.
112. The media of any claim, wherein the icon display period is about 0.01 seconds to about 60 seconds.
113. The media of any claim, wherein the authentication eye gaze icon, the registration eye gaze icon, or both comprises an indicator associated with the amount of time remaining in the icon display period, or an amount of time lapsed during the icon display period.
114. The media of any claim, wherein the indicator comprises a number of seconds, a dynamic pie chart, a dynamic bar chart, a size of the authentication eye gaze icon, a color of the authentication eye gaze icon, or any combination thereof.
115. The media of any claim, wherein the authentication eye gaze icon, the registration eye gaze icon, or both comprise a display of a single eye gaze icon.
116. The media of any claim, wherein the authentication eye gaze icon, the registration eye gaze icon, or both is static with respect to the mobile phone.
117. The media of any claim, wherein the registration display location is a top-right corner, a top-left corner, a bottom-right corner, a bottom-left corner, a top side, a bottom side, a right side, or a left side of the screen of the mobile device.

118. The media of any claim, wherein the authentication display location is a top-right corner, a top-left corner, a bottom-right corner, a bottom-left corner, a top side, a bottom side, a right side, or a left side of the screen of the mobile device.
119. The media of any claim, further comprising a module displaying a notification if at least a majority of the user's face is displayed outside the face positioning region, if the user's gaze is determined to be directed away from the registration display location of each registration gaze icon during the display of each registration eye gaze icon, or both.
120. The media of any claim, further comprising a module displaying a notification if at least a majority of the user's face is displayed outside the face positioning region for a notification period, if the user's gaze is determined to be directed away from the registration display location of each registration gaze icon during the display of each registration eye gaze icon for the notification period, or both.
121. The media of any claim, further comprising a module terminating the registration of the user's eye gaze profile if at least a majority of the user's face is displayed outside the face positioning region, if the user's gaze is determined to be directed away from the registration display location of at least one registration gaze icon during the display of each registration eye gaze icon, or both.
122. The media of any claim, further comprising a module terminating the registration of the user's eye gaze profile if at least a majority of the user's face is displayed outside the face positioning region for a termination period, if the user's gaze is determined to be directed away from the registration display location of each registration gaze icon during the display of at least one registration eye gaze icon for the termination period, or both.
123. The media of any claim, further comprising a module requesting a user name, an identification parameter, or both and associating the user name, the identification parameter, or both with the user's eye gaze profile.
124. The media of any claim, further comprising a module requesting a registration confirmation by the user before creating the user's eye gaze profile.
125. The media of any claim, further comprising a module notifying the user to position their face with respect to the mobile devices such that their face is at least partially displayed within the face positioning region.
126. The media of any claim, further comprising a module notifying the user to gaze at the registration eye gaze icon.

127. The media of any claim, further comprising a module displaying a notification if at least a majority of the user's face is displayed outside the face positioning region, if the user's gaze is determined to be directed away from the authentication display location of each authentication gaze icon during the display of each authentication eye gaze icon, or both.
128. The media of any claim, further comprising a module displaying a notification if at least a majority of the user's face is displayed outside the face positioning region for a notification period, if the user's gaze is determined to be directed away from the authentication display location of each authentication gaze icon during the display of each authentication eye gaze icon for the notification period, or both.
129. The media of any claim, further comprising a module denying the request to access the resource if at least a majority of the user's face is displayed outside the face positioning region, if the user's gaze is determined to be directed away from the authentication display location of at least one authentication gaze icon during the display of each authentication eye gaze icon, or both.
130. The media of any claim, further comprising a module denying the request to access the resource if at least a majority of the user's face is displayed outside the face positioning region for a termination period, if the user's gaze is determined to be directed away from the authentication display location of each authentication gaze icon during the display of at least one authentication eye gaze icon for the termination period, or both.
131. The media of any claim, further comprising a module requesting a user name, an identification parameter, or both and associating the user name, the identification parameter, or both with the user's eye gaze profile.
132. The media of any claim, further comprising a module requesting an authentication confirmation by the user before granting access for the user to the resource.
133. The media of any claim, further comprising a module notifying the user to position their face with respect to the mobile devices such that their face is at least partially displayed within the face positioning region.
134. The media of any claim, further comprising a module notifying the user to gaze at the authentication eye gaze icon.
135. The media of any claim, further comprising a module determining if at least a portion of the user's face is occluded by a mask.