

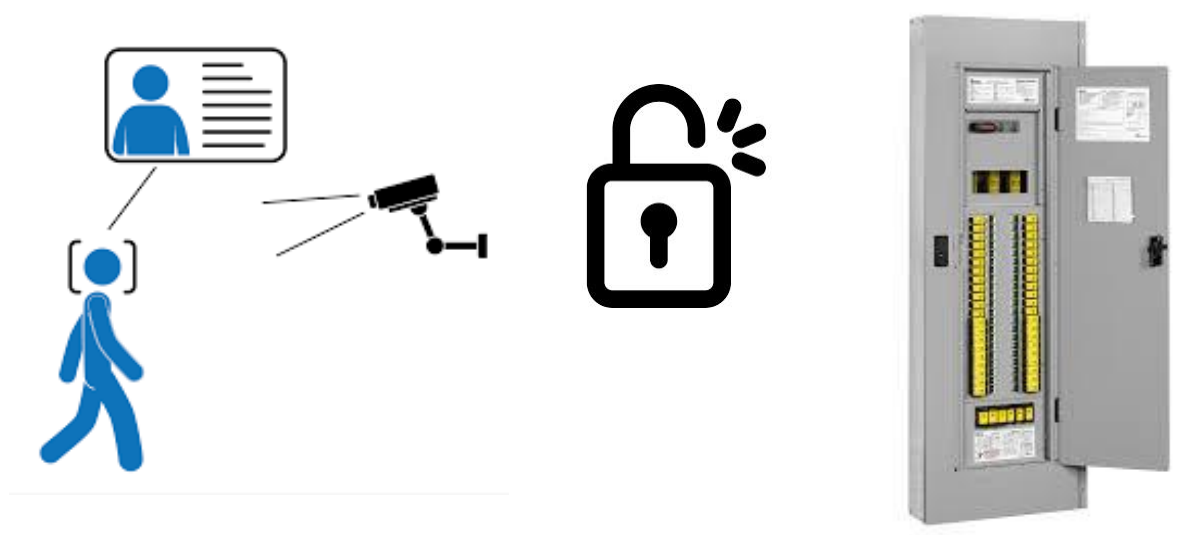
Bussmann Project Proposal:

Facial Recognition

Bussmann Lead: Mike Henricks

Objective:
Problem: Only Authorized person can access control panel or switchgear
Solution Pt #1: Use facial recognition to allow integrated smart lock to control access to control panel or switchgear.
Solution Pt #2: Use facial recognition and person recognition to allow integrated smart lock to control access to control panel or switchgear with in a zone.

Semester 1 Milestones:
1. Kick off project
2. Create system concepts
3. Create Prototype System
4. Detect Technician
5. Validate Technician is authorized to access equipment
6. Integrate and unlatch lock with vision system with equipment; reject unauthorized access
7. Close project
8.
9.
10.

Background Information/Application
 <p>The diagram on the left illustrates a facial recognition system. A blue stick figure representing a person is shown with a bounding box around their head. A line connects the head to a rectangular box containing a blue silhouette of a person and several horizontal lines, representing a database or identification list. To the right of the person is a black security camera mounted on a wall, with lines indicating its field of view directed at the person. Further to the right is a large black icon of an open padlock, symbolizing access control. On the far right is a photograph of a grey metal Bussmann switchgear unit with its door open, revealing internal yellow busbars and electrical components.</p>


Project Phase(s)
Semester 1: Known Good Installation
Semester 2: Detection of others in “zone”
Semester 3: Detection of appropriate PPE
Semester 4: Detection of PPE “on” Technician

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Possible Concepts:
<ul style="list-style-type: none">• Ensure only authorized persons access panels<ul style="list-style-type: none">• Basic: Key access limited to authorized persons (Today)• Better: Badge Access from server managed list of authorized persons• Best: Detect that the person accessing the panel is authorized<ul style="list-style-type: none">• Facial Recognition• Digital Lock releases only when authorized user makes a request• Ensure the *proper* Arc Flash Personal Protective Equipment(NFPA 70E PPE) is properly worn<ul style="list-style-type: none">• None: Authorized user has to know or calculate arch flash• Basic: Panel Labeled with Arc Flash Rating (Today)• Better: Ensure adequate PPE for the precise panel is present<ul style="list-style-type: none">• Perhaps by RFID on PPE?• Best: Visually detect the correct PPE is both present and worn properly by the authorized user• Best: Confirm there are no unprotected persons inside the safety ranges for Arc Flash, and do _____ if a person enters an unsafe region<ul style="list-style-type: none">• Audible alarm?• Refuse to allow panel to be energized?

Background Information/Application

Other References
<ul style="list-style-type: none">• Other References<ul style="list-style-type: none">• Bussmann QSCP• Arc Flash Collateral• Noko Digital Lock• Levels of Electrical PPE