MindSynchro – FOA 1861

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Project Partners: Siemens Digital Grid, Siemens Process Automation, Southern Methodist University, Temple University
MindSynchro Project Overview – A Data-centric AI Approach
MindSynchro Project - Results

Final Patterns from UL
- Line trip (direct/indirect)
- Short circuit (direct/indirect)
- Auto-reclosure
- Loss of generation
- Load disconnection
- Sustained oscillation
- Damped oscillation
- Transient
- Noise
- Normal
- Unknown

DSSL Model Results

<table>
<thead>
<tr>
<th>Model</th>
<th>#Labeled (P/N)</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short circuit (SC)</td>
<td>1878 / 296698</td>
<td>99.83%</td>
</tr>
<tr>
<td>SC with features</td>
<td>1983 / 284876</td>
<td>99.87%</td>
</tr>
<tr>
<td>Trip no SC</td>
<td>6258 / 271117</td>
<td>99.12%</td>
</tr>
<tr>
<td>Loss of gen.</td>
<td>11226 / 302824</td>
<td>&gt;99.99%</td>
</tr>
</tbody>
</table>

Event Identification

In NERC report

<table>
<thead>
<tr>
<th>Test Dataset</th>
<th>Number of events detected (UL general)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texas IC (A)</td>
<td>3,661</td>
</tr>
<tr>
<td>Western IC (B)</td>
<td>2,583</td>
</tr>
<tr>
<td>Eastern IC (C)</td>
<td>9,476</td>
</tr>
</tbody>
</table>
Contact

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