ColorNet

Consistent display of Clemson brand colors using artificial intelligence

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Corrected footage of the “Purple Out” game, Fall 2018

Corrected footage 2018 Notre Dame game with an orange uniform
So what impacts color?

Problem:
On-the-fly adjustments to scene changes

Problem 2: Need to adjust images only in specific areas

Fix it
Leave it

Current system in filmmaking

Background

Current system in athletics
Create a data set
Train the algorithm
Apply to video frames on the fly

ColorNet: Automate Brand Color Adjustment with AI
Rabbit -> Polar bear (prototype to production-level device)

Prototype device: Nvidia Jetson Nano:

<table>
<thead>
<tr>
<th>Resolution</th>
<th>FPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>360p</td>
<td>36</td>
</tr>
<tr>
<td>720p</td>
<td>16</td>
</tr>
<tr>
<td>1080p</td>
<td>6.5</td>
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</tbody>
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Production device: achieves 60+ FPS on 1080p footage

Alpha Test = Success!

Measurement

- Are we on target with which colors we are manipulating?
- Are we on target with the extent of color changes?
- How can we measure the effectiveness of ColorNet?

DEMO TIME

Be
Next steps with the research

- Beta test, part 2
- Continue refining the model & measurement tool
- Add colors to the model (purple, white)
- Patent cycle
- Conversations with industry segments

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Thank you!

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