

Better Understanding Our Built Environment



Building an Architectural Styles Classifier



Beauty is in the way you live. Enjoy your surroundings and let them inspire you.

Plants



PlantSnap

Where Nature and Technology Live in Harmony

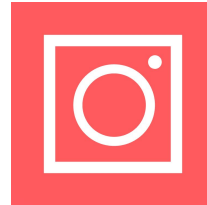
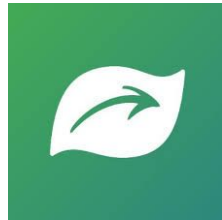
Animals

There is no app that is currently able to identify a building's architectural style



Art

Architecture?



SMARTIFY
L J

The Need for Architectural Literacy

- We spend 87% of our lives within architecture*
- Understanding/Appreciating Architecture helps people relate to community**
- Architecture influences behavior***

*Source 1 in references

***Source 3 in references

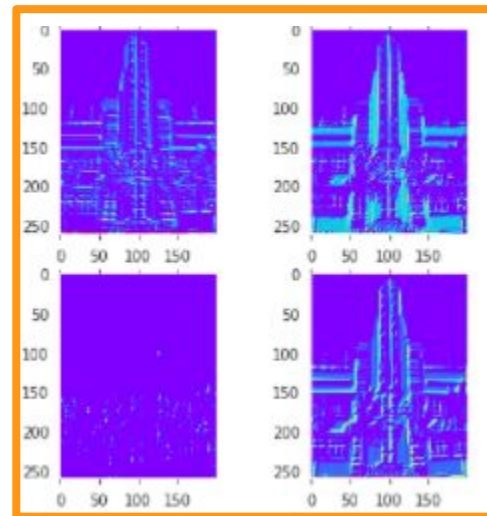
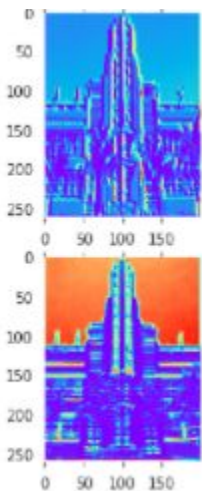
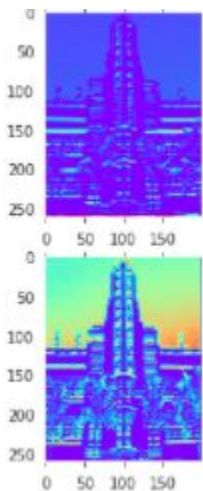
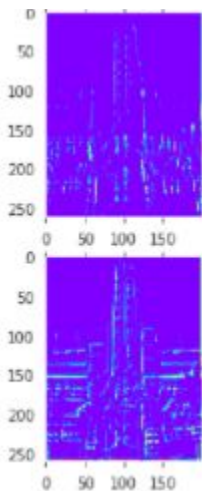
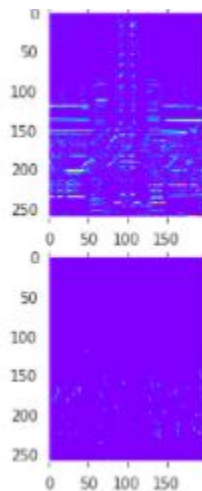
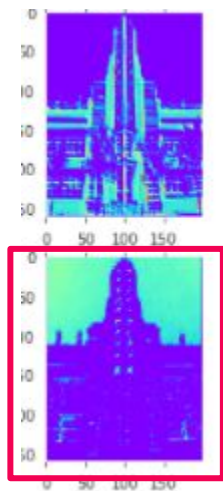
**Source 2 in references

Modeling

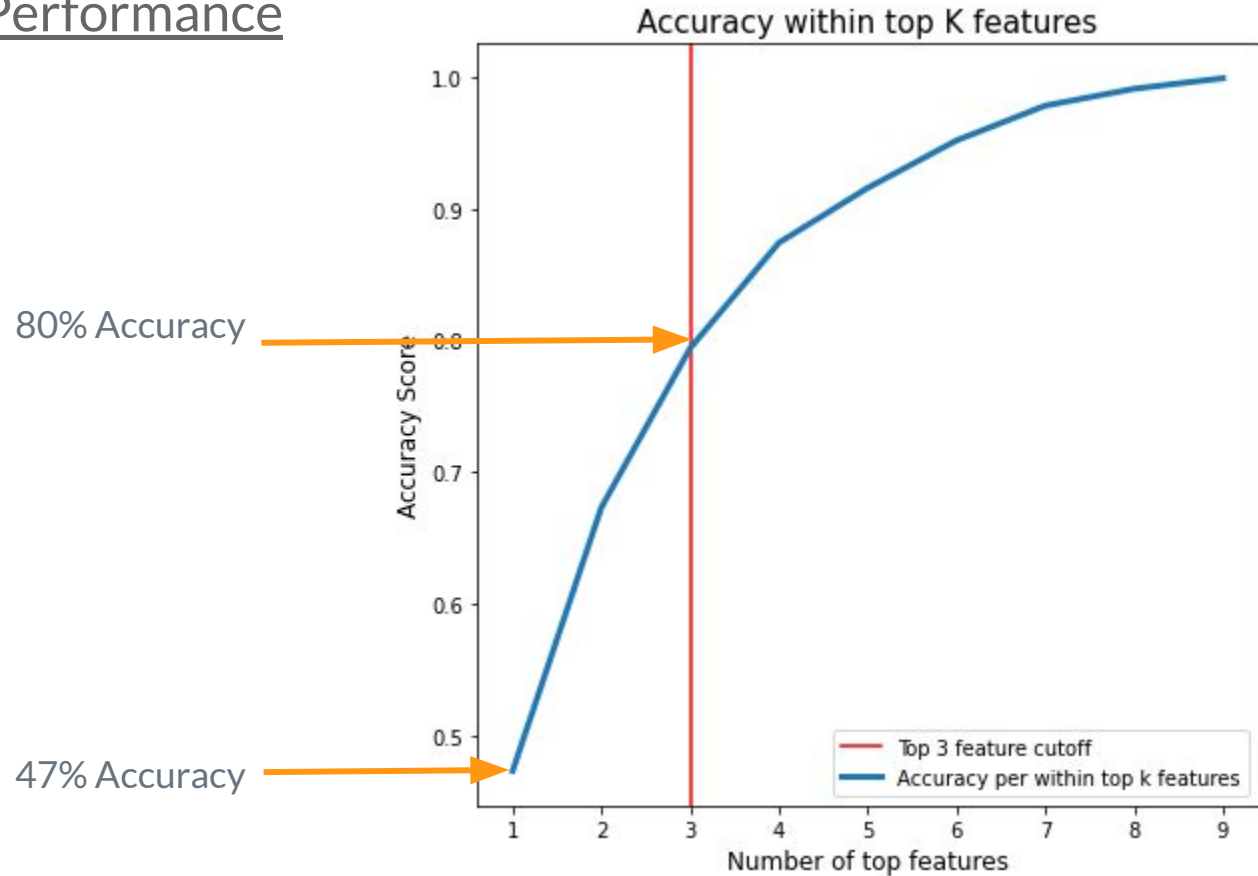
Convolutional Neural Network (CNN)



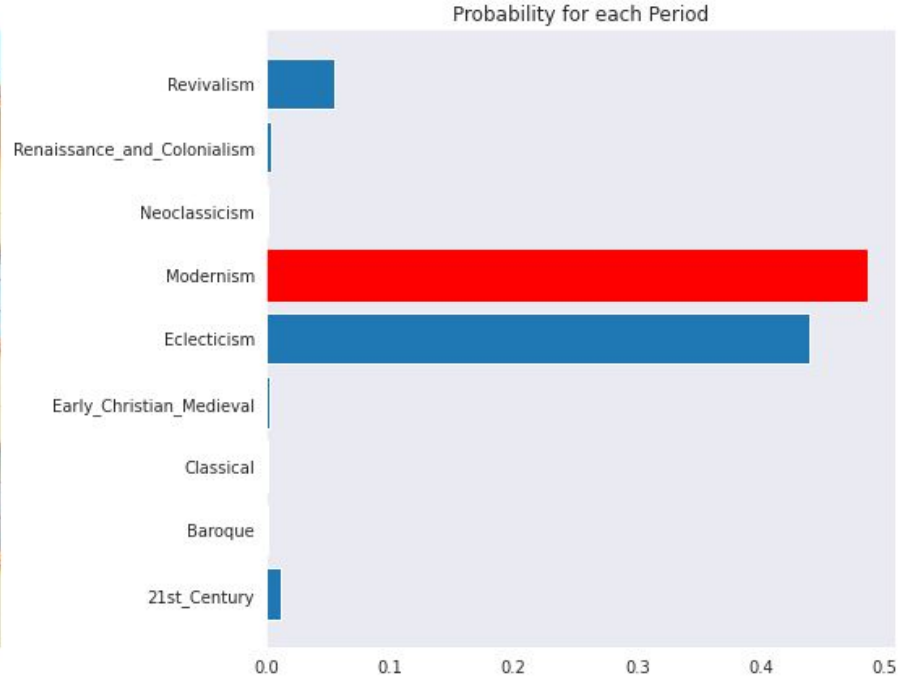
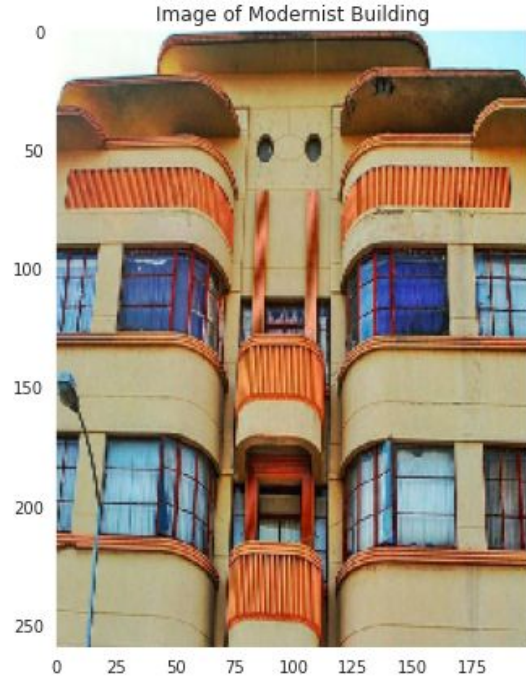
Model Produces New Images



Current Model Performance



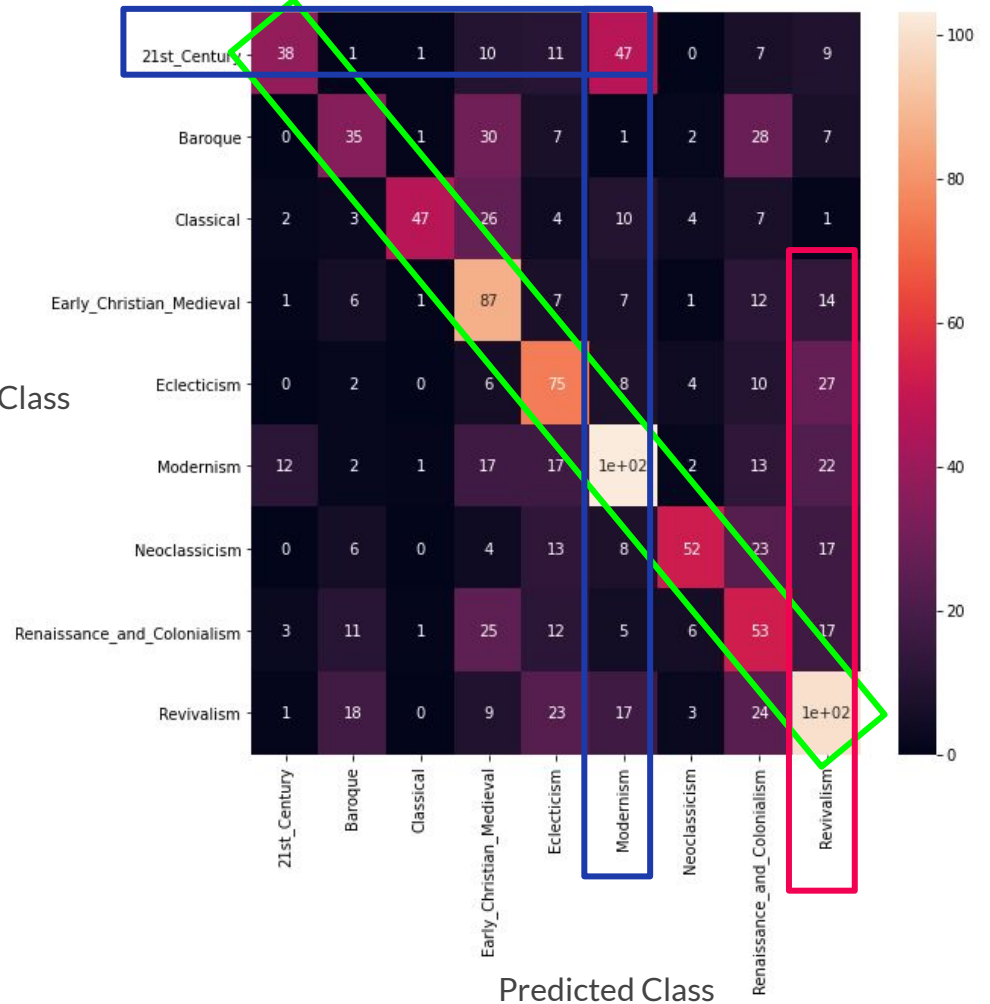
Current Model Performance



Heatmap of Predictions

- Misclassifications occur most often with adjacent time periods
- Periods with diverse styles often misclassified

True Class



Recommendations for Architectural Style Classifier

- Zillow & AirBnB
 - Allow users to search by style
 - Allow users to get understanding of area
- Schools
 - Interactive learning
 - Student engagement with community
- Identification App
 - Increase City Tourism
 - New way to engage with surroundings

Future Work

- ▷ Increase Capacity to Gather Data
- ▷ Build Dash app to allow for Predictions
- ▷ Increase top-3 to 95+%
- ▷ Increase Problem Complexity

Thank You!

Thank you for watching

Special Thanks:

Cohort Lead Abhineet Kulkarni

Educational Coach Dara Paoletti

Fellow Flatiron School Cohort Members

References

- 1) [Nation Human Activity Pattern Survey](#)
- 2) [The Death and Life of Great American Cities by Jane Jacobs](#)
- 3) [How Architecture Affects Human Behavior](#)