

Satellite Labor Force

***Brought to you by Philipp,
Helen, and Hunter**

Problem: Can we do THAT?

Can we use satellite night light data from continental US to project or predict human economic activities?

- Yale tried: With 1° latitude \times 1° longitude patches (2008, 2011)
- County-level is more **granular**, has more details
- Sweden tried: With economic data(2014)
- We use labor data: a **combination** and **leading** indicator of both economic activity and demographic trends

Challenges

We realized early that...

1. Potential bias and oversaturation in composite monthly pixel values
2. Projection distortions along latitudes
3. Missing data - Not all continental US county-level imaging data is available for all months

We the Differentiators! - Our Solution

- Validated Predictions
- Interactive Queries
- Potentials to expand our use cases(e.g. Alaska to the developing world)
- **Leading** indicator: Empower communities to prepare for and respond to economic challenges and opportunities

Discussion

- Models for both trends and outliers
- Labor/employment: a major leading indicator of economic trends
- Predicting labor without socioeconomic or mechanical assumptions
- Empower communities
- Inform policy-making
- The techniques and lessons can be transferred to the developing world

Demo

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