AI and Satellite Imagery

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Project 1

Task: Predicting deforestation before it occurs

Training data: wide-area imaging of deforestation events + (say) weekly images for preceding year

Tamshiyacu

deforested area

Amazon River—

Project 2

Task: Tracking livestock to reduce cattle raiding, inter-group conflict

Training data: Supervised data for cows and herds, largely unsupervised data for intertemporal identity (some herds with GPS)
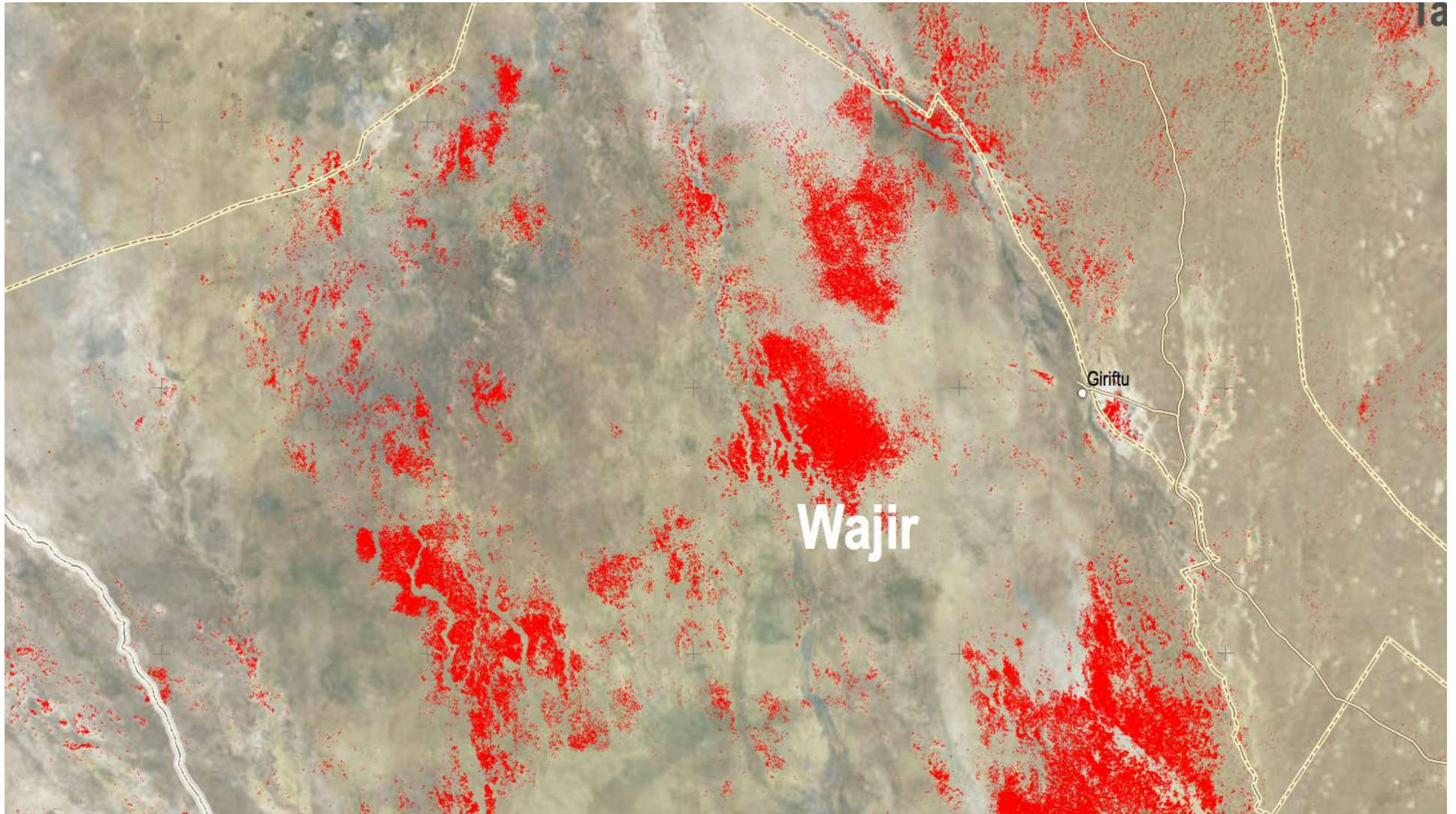
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Project 3

Task: Crop state/yield estimation for agricultural microinsurance against flooding, drought

Training data: Cellphone surveys for ground-truth samples of crops, yields, flood conditions, etc.

Project 0

Task: Provide infrastructure platform to deliver continuous, permanent global services based on automated analysis of satellite++ data streams

Examples of global services:

- ❖ weather data and forecasts
- ❖ urban traffic state
- ❖ global forest watch
- ❖ CTBT global seismic monitoring

Idea: for each application,

- ❖ focus only on the analytical capability and "user interface"
- ❖ transition from pilot to global service is immediate
- ❖ infrastructure cost amortized over 100s of applications