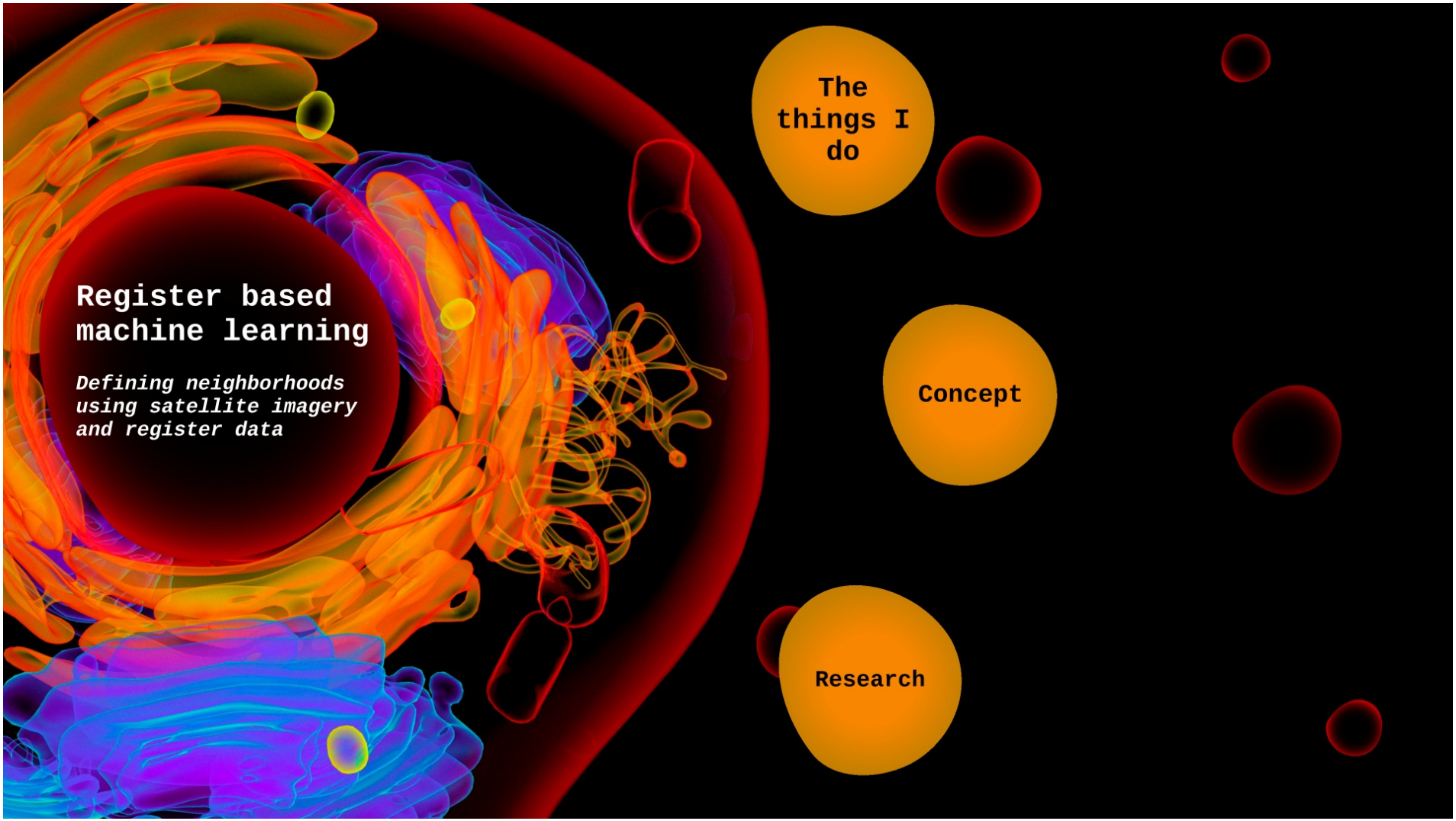
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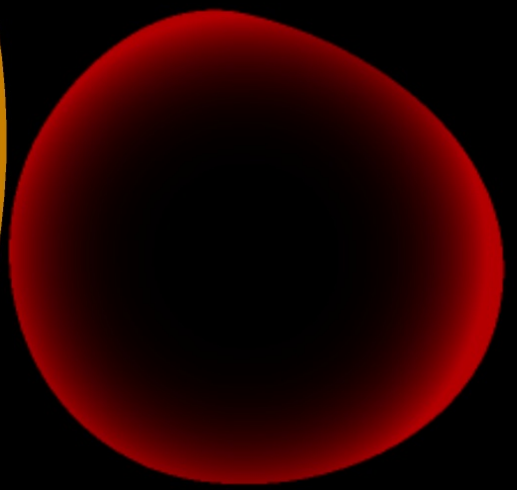
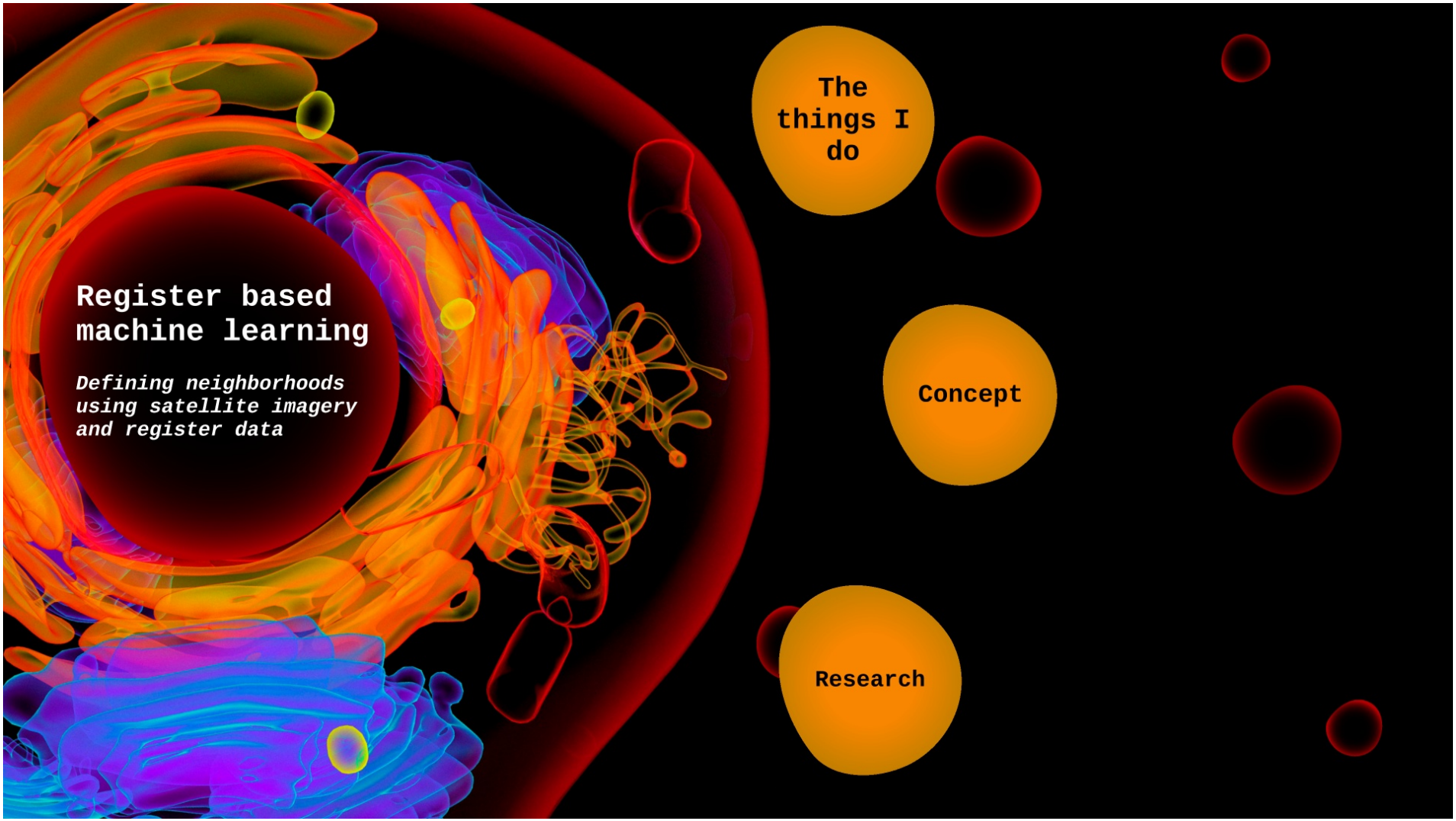
What I do

I am currently

- Using transformers to help doctors figure out exactly how much pee is too much pee
- Using satellite images to figure out what neighborhoods look like and what that means
- Checking if full moon has anything to do with suicide rates and if Zodiac signs have any effect on... anything
- Building a model to compare different types of supervised algorithms to predict cardiovascular disease
- Running unsupervised models to figure out if there are any regional logic in where health services are located after centralization
- Using spatially weighted clustering to investigate if gambling machines are being placed in a neighborhood because it is poor or if the neighborhood becomes worse off when gambling machines enter the chat
- Developing a method for bias testing algorithms used in the public sector in risk scores

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Core concept

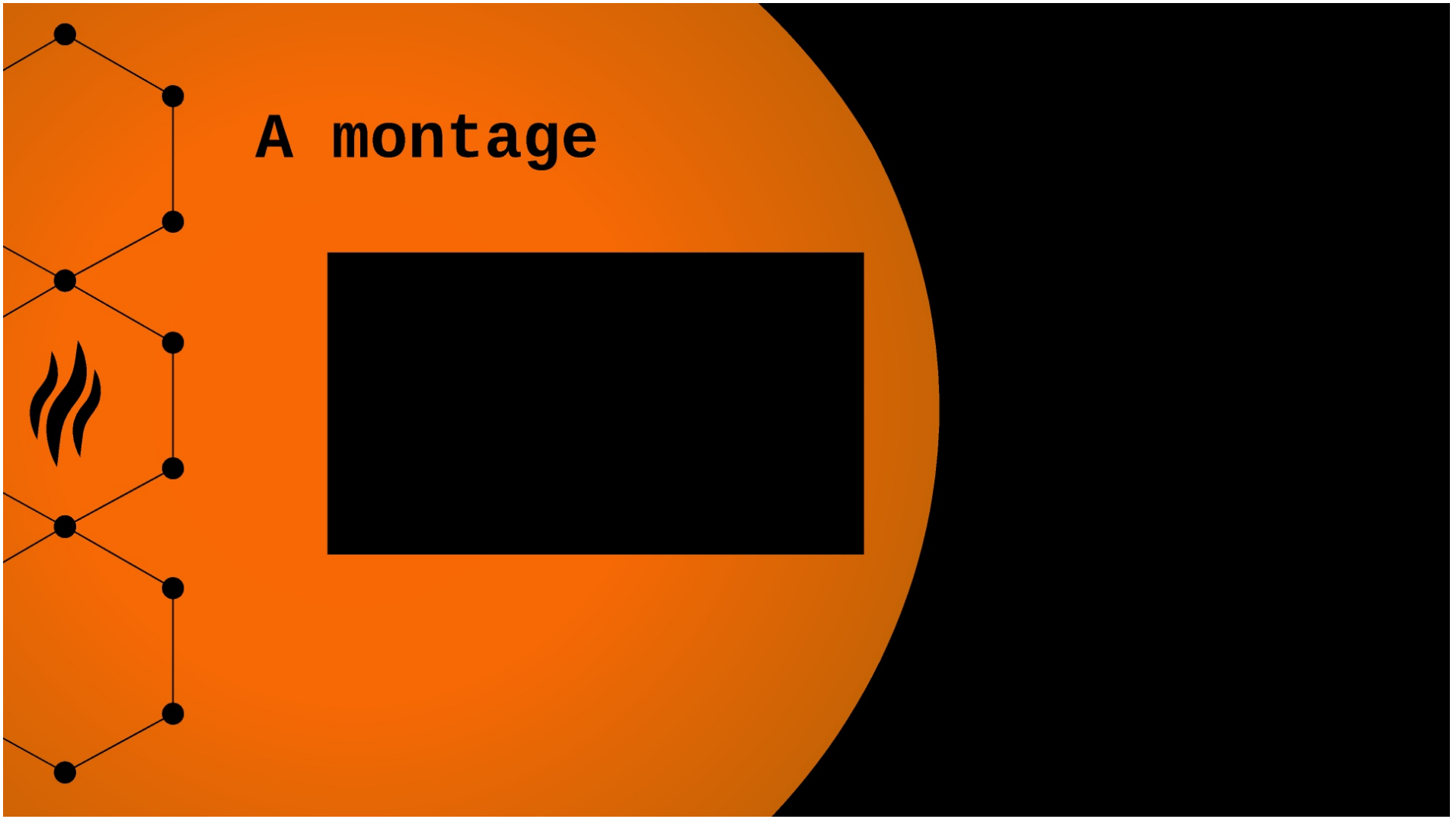
What defines a neighborhood?

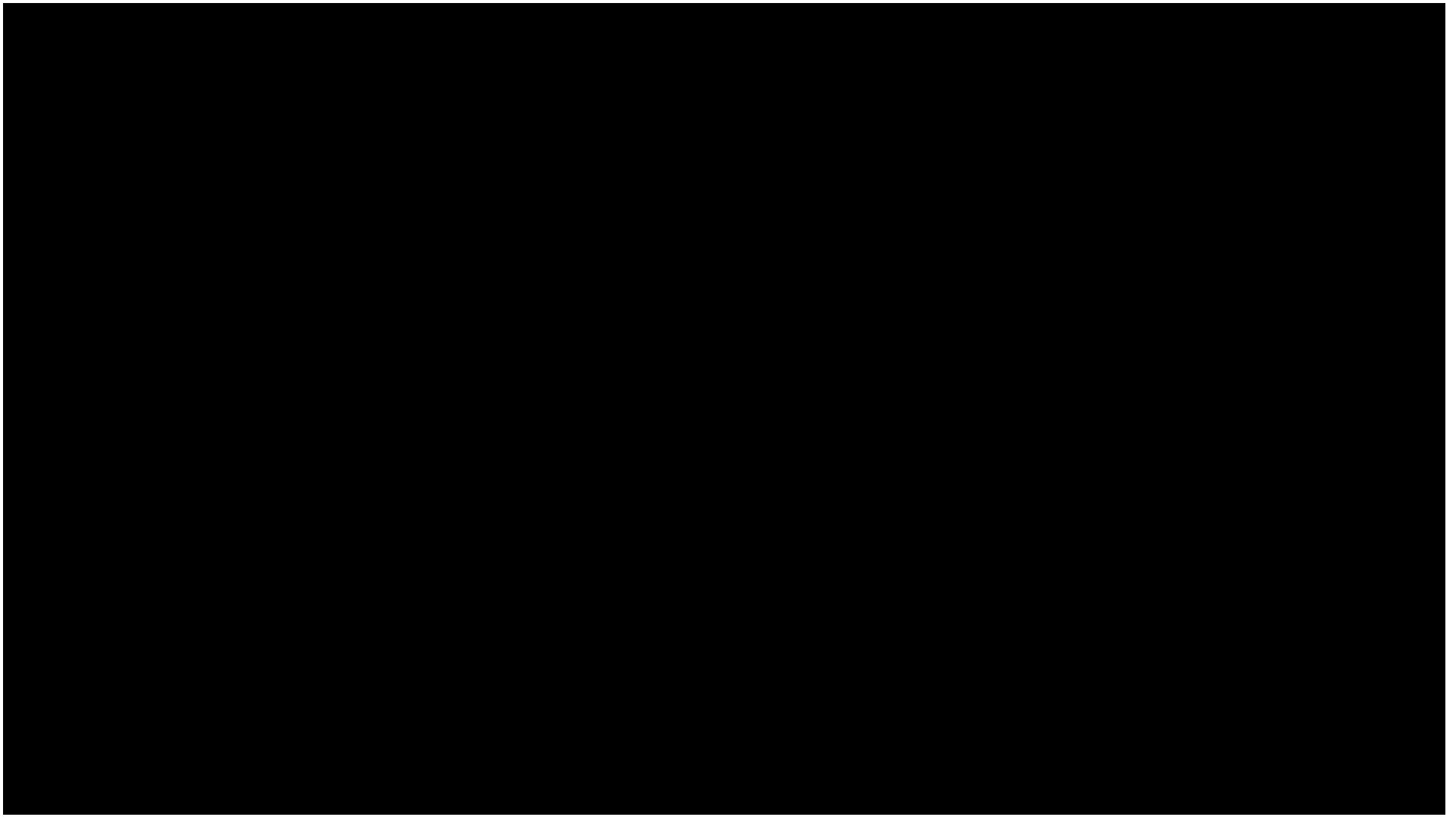
Most of us readily use some type of administrative division to "simplify" our knowledge about the physical world

We (to some extent) identify with our country, we live part of that country, we know some of the differences between municipalities, we know the city we live in and, to some extent feel like part of a much smaller part of that city - our neighborhood

What are neighborhoods?

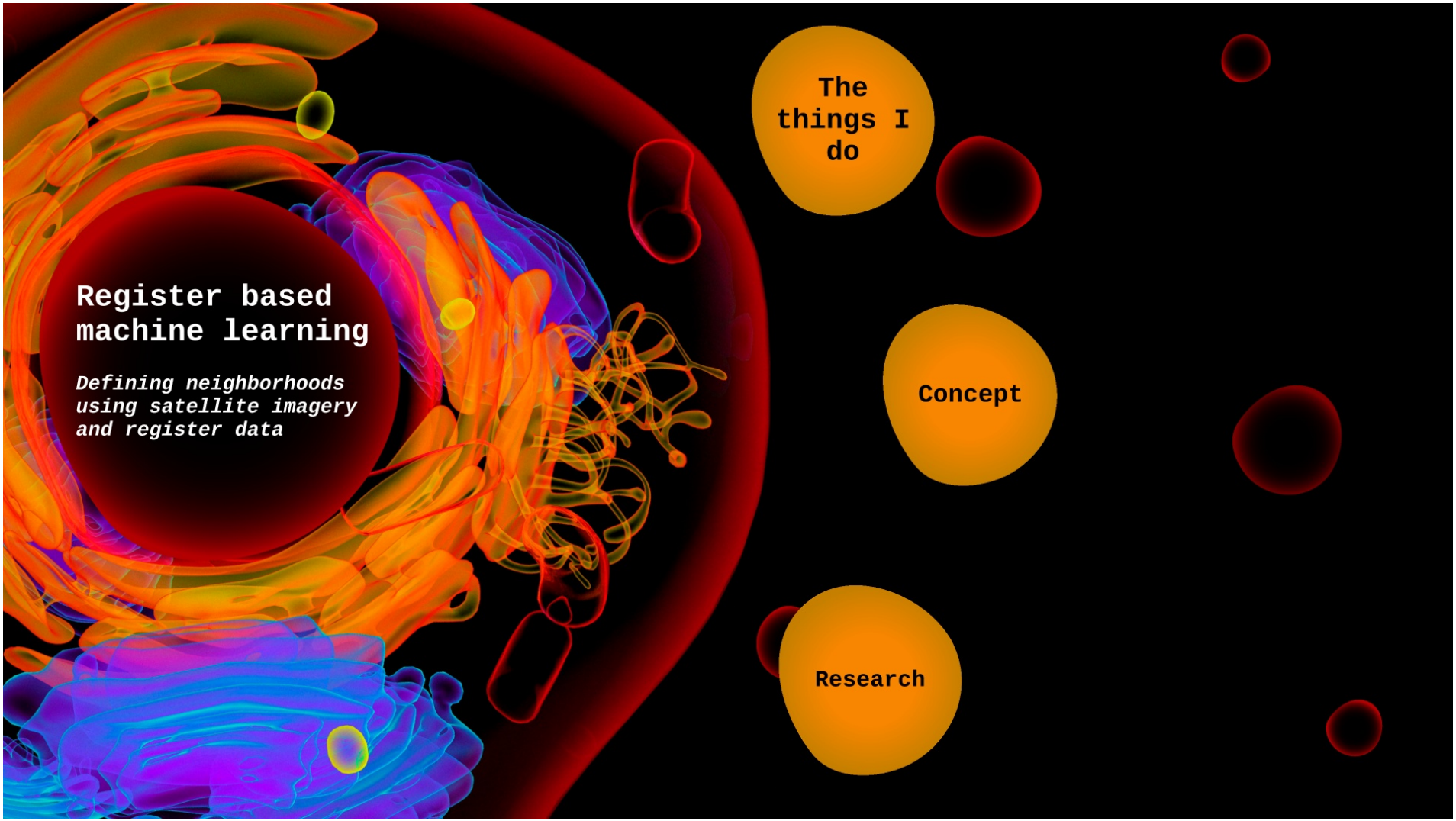
Why should we care about neighborhoods?


A montage



Should we care?

Neighborhoods play a huge part of not only our daily lives but also as something that affects us while living there and even after moving - not in the sense that they are toxic but in the sense that neighborhood dynamics help shape who we are and who we become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But... satellites?

It's all fine and dandy with neighborhoods but what does this have to do with satellites?

We know that the social element of neighborhoods are important but so are the way they look and perhaps we can learn from visuals as well

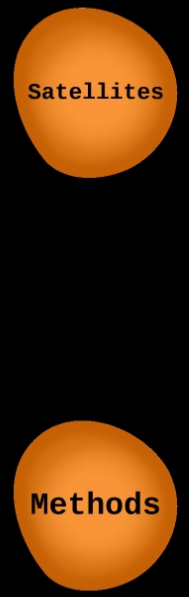
What are the data/methods?

What are the possibilities?

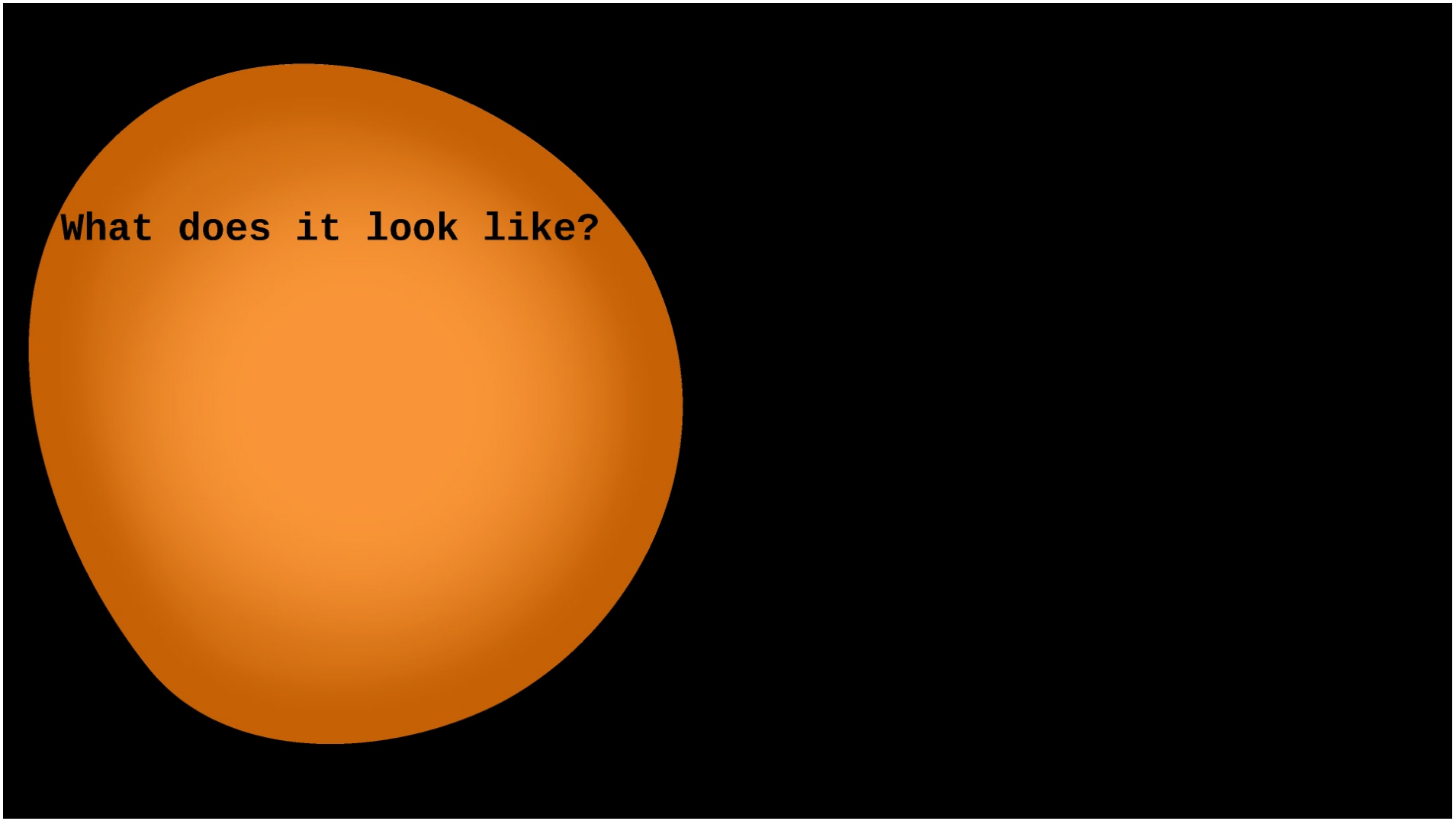
Data and methods

Data consists of Swedish register data and a still expanding collection of satellite imagery (mainly from Landsat 8)

The interesting part about this is that we can use a plethora of different indicators to help train different models - it's not a static data set of registers but dynamic



What does it look like?


What does it look like?

What does it look like?

Methods?

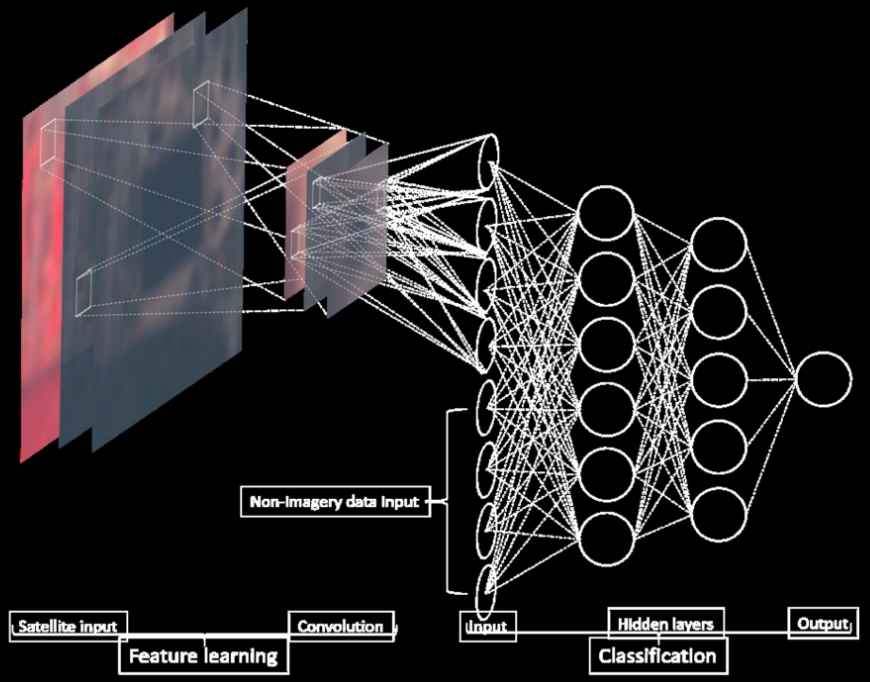
Redefining neighborhoods are mostly done by looking at data but now we have another layer as well; a visual one

Visual data requires (especially when we have more than 143 million local images) computational help

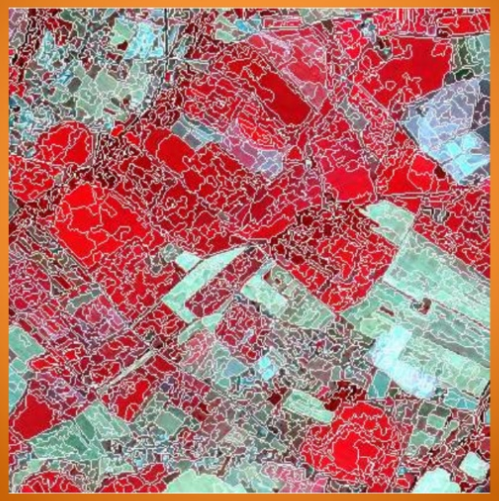
Since most common pre-trained image classification models like VGG-16, ResNet50, Inceptionv3 or EfficientNet rely on common problems like finding bikes, cars or apples and this goes somewhat beyond that, we are building our own stuff

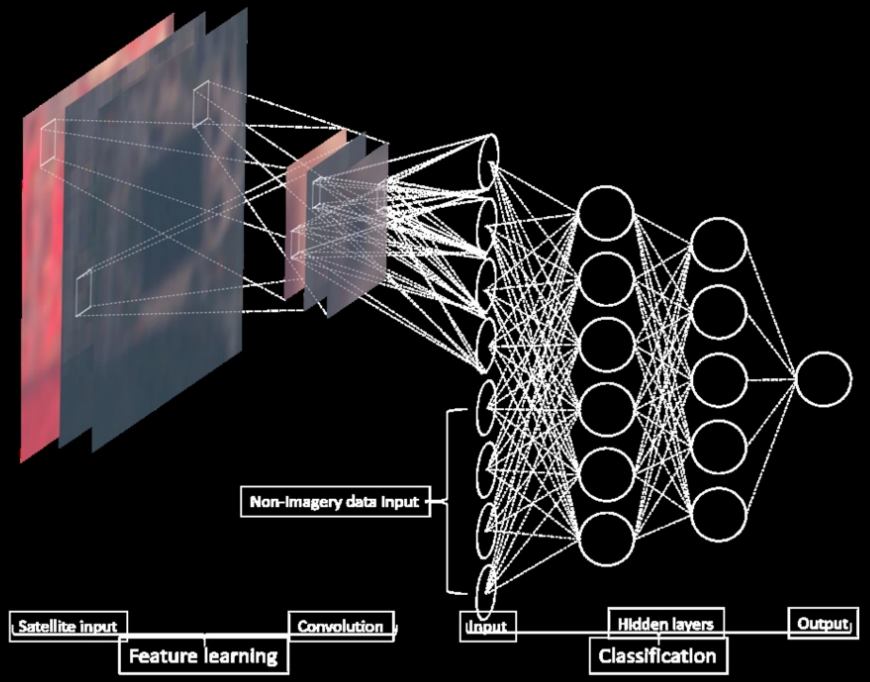
Preliminary solutions

Architecture

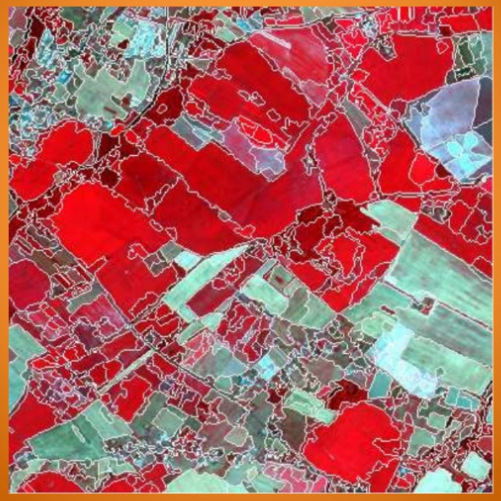


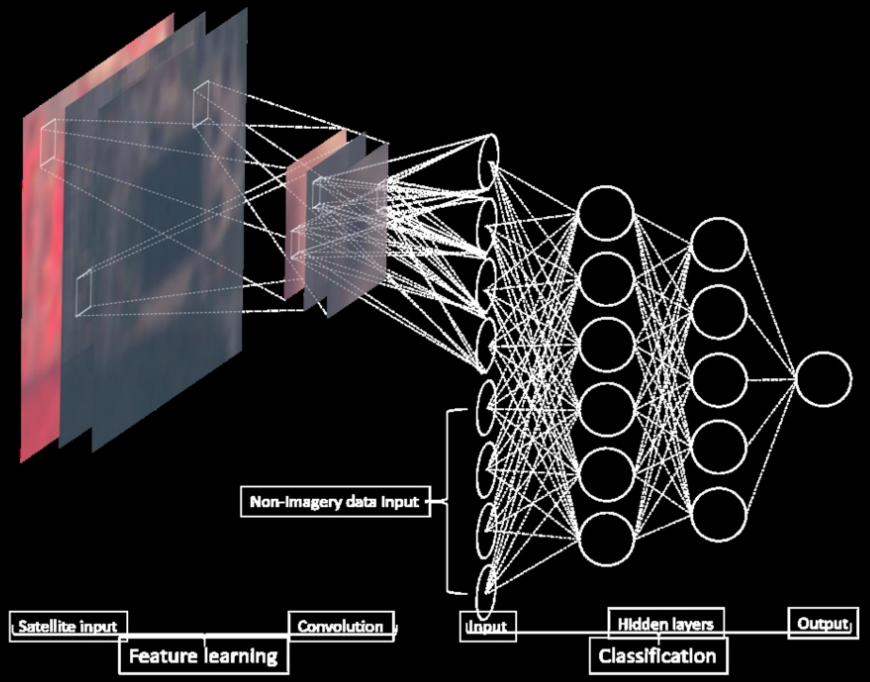
Architecture





Architecture

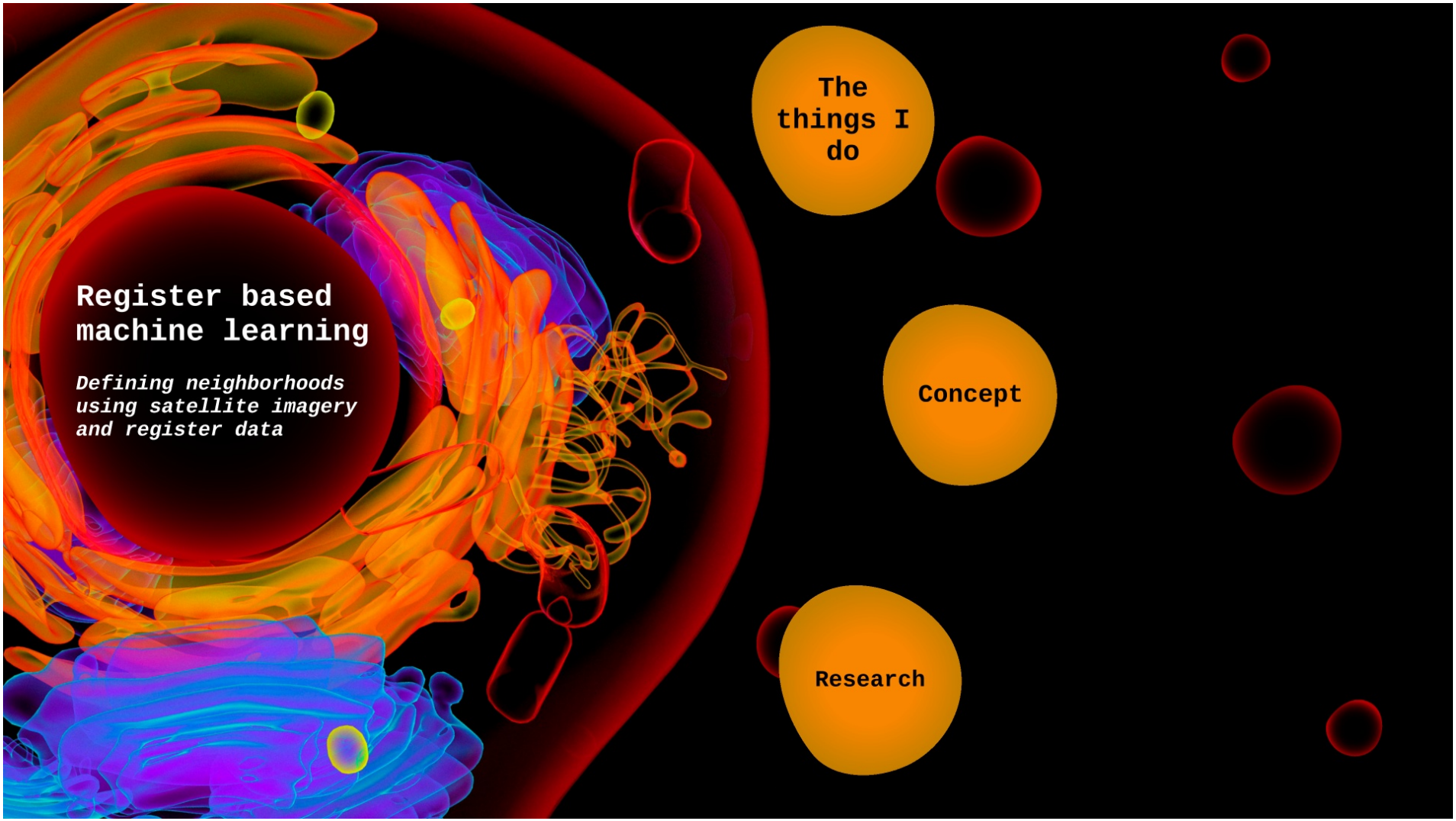




Possibilities?

Much like personalized medicine, we work with a version of "personalized sociology"

By deconstructing administrative areas and, much more inductively, let the social define the geography we hope to be able to isolate specific types of neighborhoods or isolated enclaves to further how we look at neighborhoods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