#LightSmart

Objective:

Optimize the power consumption, reduce cost, limit light pollution for street lights using self learning luminosity control which is powered by wisdom of crowd and artificial intelligence.

How it works:

* The street lights are IoT enabled. They can talk to each other and to the central server sitting on the cloud.
* Each street light will record the traffic conditions of the road using a camera and various other sensors
* Each street light will dynamically compute the optimal brightness needed for that particular traffic condition and share the results of the computation with other nearby lights and with the cloud server.
* Over time, these lights will get more accurate and learns to be intuitive using machine learning algorithms.
* This will enable us to predict the power consumption and costs down the road for the whole city.

Other applications:

* Parking:
  + Can identify empty spots on the street and notify parkers thru an app.
* Crime:
  + System can be trained to identify any suspicious or abnormal activities.
* Accidents:
  + Can identify accidents, promptly report the authorities and tell the factors leading to the accident.

Wildlife: In the future, identify lighting near San Diego’s wildlife refuges, and reduce lighting when safe for nocturnal species, such as bats.

Astronomy & Space Science: In the future work with Palomar Observatory (CalTech) and NASA, to measure cumulative illuminance (lux) levels regionally for the City of San Diego and eventually San Diego County. Goal to reduce light pollution in the San Diego metropolitan region.

Secret Sauce:

Dynamically Adapting to the traffic situations and sharing insights with each other (wisdom of crowd <https://www.ibmbigdatahub.com/blog/internet-things-and-wisdom-crowds> )