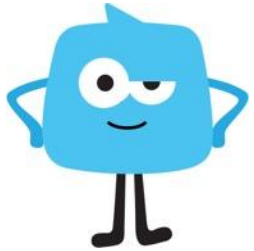

Home Wi-Fi. Optimized

DOMOS

Domos

Problem

- Internet Service Providers has huge costs and dissatisfied customers because of Wi-Fi problems
- They have little insight into what causes issues.

Domos:

- Gathers vasts amount of data from new and existing home routers.
- Sold as a Service to ISPs
- Optimizes the router
- Customer Support Tool
- End-user App
- Insight for the ISP
- 12 fulltime employees. 4 interns.
- “Data Science as a Service”
- In international research project and standardization forums.

Data Science

- Domos samples hundreds of data points, every second for 100 000 routers (likely to reach 1m in 2019)
- Wi-Fi has hundreds of parameters that can be tweaked.
- Most parameters are tradeoffs
- The environment depends on neighbours and volatile usage
- Optimal Wi-Fi depends on what services are being used (Netflix, Youtube, Fortnite, etc.)
- Optimal Wi-Fi depends on what devices are being used (iPhone X, Chromecast, etc.)

Data Science

- 1. Use Neural Networks in TensorFlow to model the impact of configuration changes. Create models to balance trade-offs influencing coverage, throughput, latency, and packet error rate. The model will continuously update to find the optimal set of configurations for each home.

- 2. Device Taxonomy: Classify what type of devices end-users are utilizing. To classify the different models, you can use a combination of supervised and unsupervised learning based on the devices behavior and configurations while preserving privacy.

- Bonus: Service Classification: Classifying what service are being used can be done in several different ways. Unfortunately they all either:
  - Breaks Privacy
  - Requires to much resources
  - Unstable or ever changing
    - Can we build a system that combines approaches and circumvents all the problems?