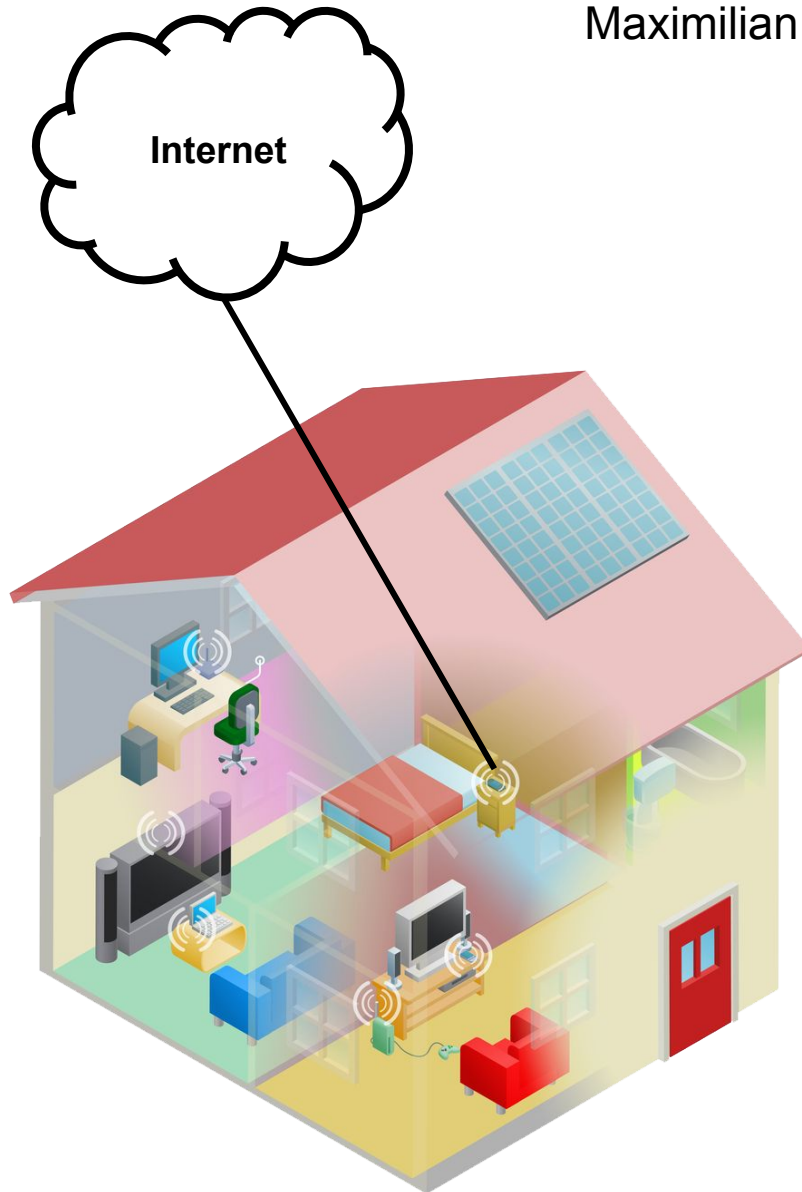# Browser based network troubleshooting using machine learning

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Internet

Web browsers ideal platforms for home network troubleshooting:

- Web sites are platform independent
- No need to install

But

- **Limited** possibilities due to security concerns
- **High level** → Garbage collection can interfere with measurements

Current approaches (e.g. speedtest.net):

- Report only **raw values**

- Don't tell **why** there is a problem
  - WiFi?
  - Connection to ISP?

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Proposed solution

Controlled experiment, delay measurements from browser

Measurements in different conditions:
- everything fine
- low WiFi signal
- cross traffic from other device
- traffic from other application on same device
- physical interference
- connection to ISP slow

Results labelled by condition → multiclass SVM → trained SVM

Later, user uses troubleshooting web page:
- Perform measurements
- Use trained SVM to classify if there is a problem, what is the problem