

# IoT and Serverless

**Eric Rozner, IBM Research** \*views not representative of IBM

- Serverless computing ripe to satisfy emerging IoT workloads
  - Voice assistants (Alexa, etc), smart sensors (cameras, etc), smart environments (smart homes, etc)
  - Scale required by workloads will be major problem
- **Issue 1: Where to run serverless workloads?**
  - Which location? On device, at edge, or in cloud? CPU/GPU/FPGA/ASIC?
  - With location hierarchy: caching is a natural solution
    - Why recompute same function input?
    - How to understand when nonequivalent inputs give same output?
    - Can this be done across customers in privacy-preserving way? Across FaaS providers?
    - Who builds caching service? 3rd party? App developers? Serverless providers?
- **Issue 2: How to provide IoT and serverless security?**
  - New serverless attacks? DDoS doesn't bring down system, but instead causes financial damage