

# NSF/IUCRC CAC PROJECT

---

## MONITORING, VISUALIZING, AND PREDICTING HEALTH STATUS OF HPC CENTERS

Jie Li

Doctoral Student, TTU

03/13/2020

Advisors:

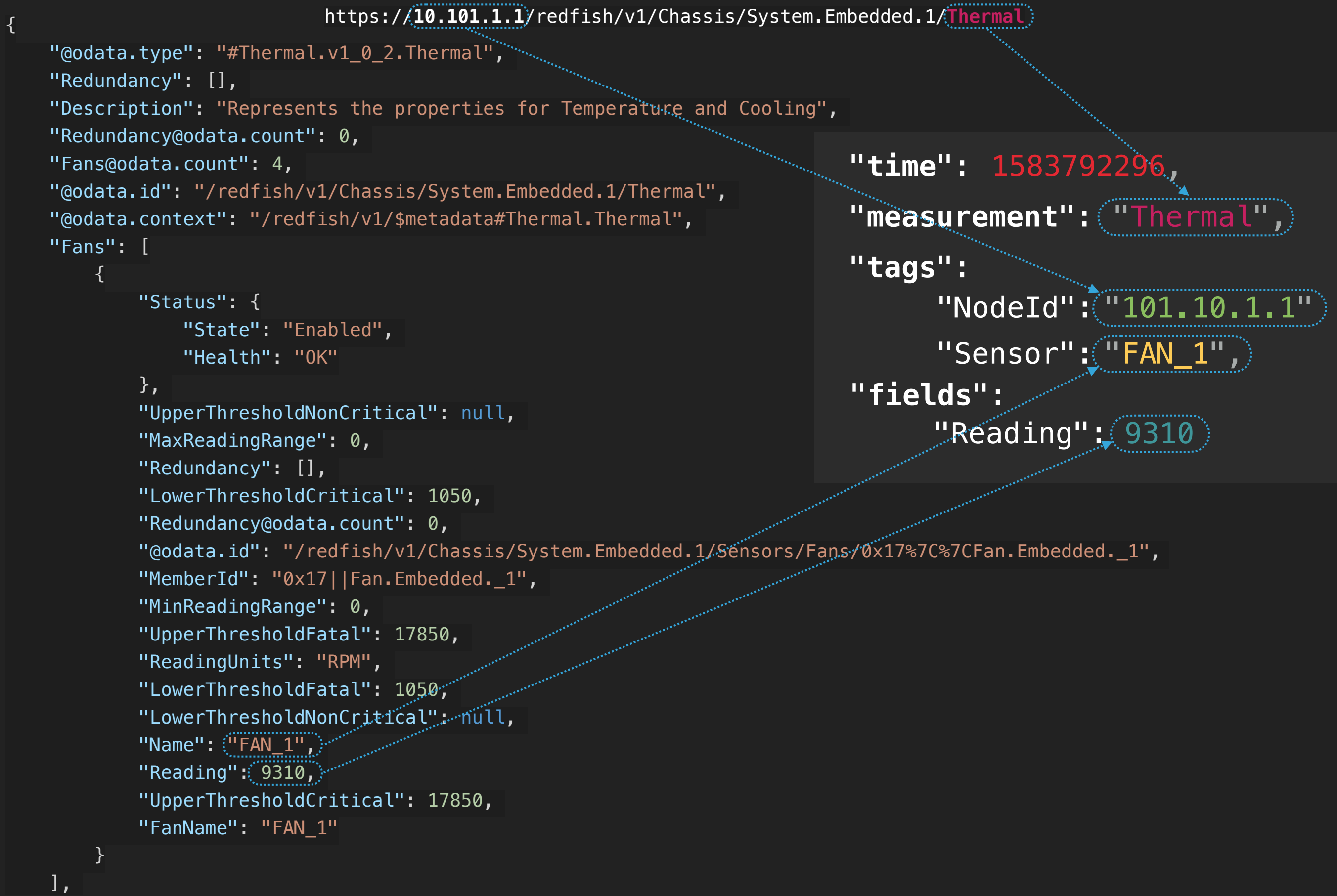
Mr. Jon Hass, SW Architect, Dell Inc.

Dr. Alan Sill, Managing Director, HPCC, TTU

Dr. Yong Chen, Associate Professor, CS Dept, TTU

Dr. Tommy Dang, Assistant Professor, CS Dept, TTU

# METRICS FROM REDFISH



## METRICS FROM UGE

---

```
"time": 1583792296,  
"measurement": "UGE",  
"tags":  
  "NodeId": "101.10.1.1"  
  "Sensor": "CPUUsage",  
"fields":  
  "Reading": 0.50
```

```
"time": 1583792296,  
"measurement": "UGE",  
"tags":  
  "NodeId": "101.10.1.1"  
  "Sensor": "MemUsage",  
"fields":  
  "Reading": 0.35
```

```
"time": 1583792296,  
"measurement": "NodeJobs",  
"tags":  
  "NodeId": "101.10.1.1"  
"fields":  
  "JobList": [123456,  
              123457]
```

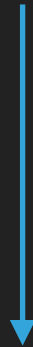
```
"time": 1583792296,  
"measurement": "JobsInfo",  
"tags":  
  "JobId": 123456  
  "Queue": "quanah"  
"fields":  
  "StartTime": 1583792200  
  "SubmitTime": 1583792200  
  "TotalNodes": 1  
  "NodeList": ["101.10.1.1"]  
  "CPUCores": 10  
  "JobName": "test"  
  "User": "abc"
```

Only update when a new job is submitted

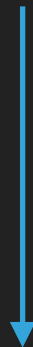
# PROCESS

---

Understand measurements



Understand sample data points



Convert

All measurements : 845,241

- Numerical measurements : 10
- Jobs measurements : 845,217
- Other measurements : 14

All measurements : 12

# Demo

Data points range:

Friday, April 12, 2019 8:39:41 AM

Friday, April 12, 2019 8:49:41 AM





**QUESTIONS?/COMMENTS?**