

Air Quality Network

Backend Data Processing & Visualization Pipeline

- ✓ Sensor Deployment
- ✓ Containerization
- ✓ NodeRed: mdash.circ.utdallas.edu:1880
- ✓ InfluxDB: mdash.circ.utdallas.edu:8086
- ✓ Grafana: mdash.circ.utdallas.edu:3000
- ✓ Open Storage Network S3 Integration

Time Series Uncertainty Quantification

- ✓ TimeSeriesTools.jl package implementend
- ✓ Representativeness Uncertainty
- ✓ Variogram modeling for nugget, range, sill
- ✓ Data collected (3 year time series from Central Node)
- 🕒 Application of method to entire dataset (in progress)
- 🕒 Paper

Time Series Modelling

- ✓ HAVOK Code Developed
- ✓ HNN + Auto Encoder Code Developed (with AutoDiff)
- ✓ Dataset Collected (sample 10-day time series for PM)
- 🕒 HAVOK-UDE Hybridization (in progress)
- 🕒 HNN + Auto Encoder Training (in progress)
- 🕒 Paper