

Hardware Manager for UT Campus Air Quality Monitoring Project

Project Description

We plan to develop and deploy a sensor network on the university campus to provide continuously-measured indoor air quality (IAQ) monitoring of a few key pollutants: carbon dioxide, particulate matter of various sizes, total volatile organic compounds, and radon. We propose to use 10 sets of two, commercially-available devices to monitor these pollutants in addition to temperature and humidity. Two sets of devices will be placed in building spaces across the University of Texas at Austin that have similar use types: (1) small-capacity (<50 occupants) classrooms, (2) large-capacity (>300 occupants) classrooms, (3) on-campus cafeterias, (4) student common areas, and (5) building entrance lobbies. Measurements from these spaces will help identify typical concentrations of air pollutants that students are exposed to on a daily basis. In addition, facility and building managers can use these measurements to help make informed decisions regarding retrofits and other building improvements.

Project Website

[Lab Website](#)

[Github Wiki](#)

Qualifications

Required

- Basic knowledge and interest in indoor air quality
- Willingness to learn and work with commercial air quality sensing devices
- Familiarity with UT Invention Works
- Willingness to perform routine inspections of the devices once installed

Preferred

- Basic programming knowledge (Python recommended) and comfortable with working with large datasets
- Willingness to travel to Pickle Research Campus to conduct calibration experiments
- Laser cutting training from UT Invention Works
- 3D printing training from UT Invention Works

Project Timeline

Start in Fall 2021 (immediately)

Duties

- Perform basic experiments to understand sensor limitations and calibrate devices
- Create small container to house devices when in the field
- Coordinate with UT facilities to setup devices across campus
- Setup, configure, and install devices
- Monitor and debug installed devices
- Pre-process and summarize IAQ data

Typical Time Commitment

10 hours per week

Desired Length of Commitment

1 semester with the option to continue on for the Spring 2022 semester

Compensation

\$13/hour up to the 10 hour per week commitment

Tags

IAQ, sensing, hardware