

Title of Data Set:

Little Ram Pantries Magnetic Sensor Data: School Years 2021-2022 and 2022-2023

Peer-reviewed Research Article in which these Data are Presented:

Jones, J. C., Linkous, L, Mathews-Ailsworth, L, Vazquez-Miller, R., Chance, E., Carter, J., & Saneda, I. (2024). Smart Little Campus Food Pantries: Addressing food insecurity at Virginia Commonwealth University. *Journal of Agriculture, Food Systems, and Community Development*. Advance online publication. <https://doi.org/10.5304/jafscd.2024.133.015>

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Summary of Pilot Study:

This research examined the use of miniature food pantries at Virginia Commonwealth University (VCU) to mitigate college student food insecurity. Pantries were equipped with magnetic door sensors that created time-stamped data when a pantry door was opened or closed by a user. These sensors recorded timestamp data on Google Sheets through the campus Wi-Fi. Sensor functionality and connectivity was not constant; see our paper for more details. A pairing of open/closed timestamps was understood as an “interaction” with the pantry, but the research team had no way of collecting data on what occurred once an individual opened the pantry door.

Pantries were located inside campus buildings, with the exception of one pantry that was briefly located in a near-campus house of worship (the Pace Center) before being relocated to a campus building (Harris Hall). Individuals could access food from the pantries 24 hours a day, seven days a week, unless a specific building was closed during certain times of the day. The research team restocked each pantry with dry goods (e.g., canned vegetables and fruits, boxed pasta, rice, snack items) each Wednesday during the 2021-2022 and 2022-2023 academic years. The pantries and sensors remained deployed during summer and winter breaks, but the research team did not conduct weekly restocks during this period and were unable to check sensor connectivity. Our data suggests people were both adding and removing food from the pantries during summer and winter breaks.

Summary of Data:

The included data is presented in two files, one for each of the 2021-2022 and 2022-2023 school years (roughly late August to early May). These files contain the consolidated data collected for multiple locations. Each file is organized where the columns are: academic year, location, date,

time, door status, optional comments. No personal or identifiable data on users were collected. Any names referenced in the comments are from consenting researchers or authors. This research was approved by the Virginia Commonwealth University IRB, application HM20022858.

Within the files, the following location tags are used. The table below connects their tag, reference in the paper, and actual location on VCU's urban campuses.

Location Tag	Building Name in JAFSCD Article	Actual Building Name	Richmond, VA, Street Address	21-22 Data	22-23 Data
cary_dorm	Student Dorm	Cary & Belvidere Residence Center	301 W. Cary St.	y	y*
life_sciences	Life Sciences Building	Trani Life Sciences	1000 W. Cary	n	y*
cary_st_gym	Gym	Cary Street Gym	101 S Linden St.	y	y
engineering1	Engineering School	Engineering Research Building	401 W. Main St.	y	y
monroe_park_library	Main Library	Cabell Library	901 Park Ave.	y	y
pace_center	N/A	The Pace Center	700 W. Franklin St.	n	y**
harris_hall	General Education Building	Grace E. Harris Hall	1015 Floyd Ave.	n	y**
snead_hall	Business School	Snead Hall	301 W. Main St.	y	y
university_commons	Student Commons	Student University Commons	907 Floyd Ave.	y	y
mcalc_lobby	School of Social Work	Academic Learning Commons	1000 Floyd Ave.	y	y
Medical Campus Locations Rejected from Paper Due to Inconsistent Wi-Fi Connection***					
gateway	N/A	Gateway Building	1200 E Marshall St.	N/A	N/A
health_science	N/A	Healthy Science Library	1112 E. Clay St.	N/A	N/A
larrick	N/A	Larrick Student Center	900 Turpin St.	N/A	N/A
mcglothlin1	N/A	McGlothlin Medical Education Center	1201 E. Marshall St.	N/A	N/A

Several locations (cary_st_gym, monroe_park_library, cary_dorm, university_commons, mcalc_lobby) were in the first round of deployment, so their data collection may begin as early as September (the alpha testing period). The early deployment was unstable, and underwent several redeployments as locations, Wi-Fi connectivity, and code were tested. Both consolidated datasets contain the comments left by researchers when sensors were redeployed. Not every instance of redeployment is marked with a comment; some redeployments resulted in restarting with a clean database, or instances of sensors collecting test data were manually removed at the time of testing.

*On 4/6/23, the cary_dorm pantry was moved to the Train Life Sciences building due to poor Wi-Fi connectivity and remote location relative to food distribution pathways. The sensor was renamed "life_sciences". These are separate to remain consistent with a code update that changed the name that the sensor system wrote to the database.

**On 12/6/22, the pace_center pantry was moved to a new location (Harris Hall, 5th floor) due to poor Wi-Fi connectivity and remote location relative to food distribution pathways. The sensor was

renamed "harris_hall". These are separate to remain consistent with a code update that changed the name that the sensor system wrote to the database.

*** As noted in the paper, Wi-Fi connectivity at VCU's medical campus was extremely inconsistent, potentially due to firewall issues for a medical school and hospital. As none of the research team worked directly on the medical campus, maintaining sensor functionality at these locations proved too inconsistent for inclusion in our research. We elected to provide the data here nonetheless.