

Katherine (Katy) Yut

Geospatial Data Engineer

Austin, TX · katy.yut@gmail.com · [GitHub](#) · [LinkedIn](#)

To whom it may concern,

I'm a geospatial data engineer and a voracious learner. I earned two undergraduate degrees and a graduate degree in five years, then went from Python novice to Data Engineer in less than a year and a half. Along with writing well over ten thousand lines of code by hand, I lean on tools like Claude, Gemini, and Copilot to move faster, and placed in the top 5 of 27 in a company-wide AI competition. I'm a curious, motivated tinkerer and builder, and I bring that to every team I join.

My current role as a Data Engineer at Grassroots Carbon has been defined by growth and self-driven skill acquisition, from soil carbon to coding. I've picked up Docker containerization, automated deployments with cron and GitHub Actions, integrated APIs such as Salesforce, built ETL pipelines from start to finish, designed front-end applications in Streamlit, and adopted Pydantic for data validation. I tackle problems as I find them, often before they become business-critical. Day to day, I develop Python modeling pipelines for soil carbon reductions and removals, write and rewrite code until it is clean and documented, review pull requests for my colleagues, and read the literature to deepen my industry knowledge.

I've worked with a wide variety of data, from economics to ranching, usually in the form of large geospatial datasets. In my current role, I've processed a dozen datasets onto Uber's H3 hexagonal spatial index and stored the resulting Parquet files on AWS S3. I'm intellectually nimble: I pivot and get up to speed quickly, whatever the size of the challenge. My professional goal is to keep learning by solving complex problems that bring ideas to life, improve efficiency, and build a better world.

My mantra, in life and at work, is "I can do hard things." I live it daily by meditating, cold plunging, weightlifting, and keeping other habits and routines, which I track in a personal app I built for the purpose. I'm a go-getter and a never-back-down kind of person, confident in my ability to learn new skills and sharpen the ones I have. I do my best work surrounded by smart, hardworking people who treat others with respect and share the same goals.

Thank you for considering my application; I look forward to discussing the role further.

Best,

Katherine (Katy) Yut

Katherine (Katy) Yut

Geospatial Data Engineer

Austin, TX · katy.yut@gmail.com · [GitHub](#) · [LinkedIn](#)

Expert in geospatial analysis, data visualization, and programming using R and Python. Passionate about efficiency and optimization. Seeking to solve complex problems to make the world a better place. Meticulous, intrinsically motivated, and a quick learner.

EXPERIENCE

Data Engineer · Grassroots Carbon

Aug 2025 – Present

San Antonio, TX (hybrid)

- Building ETL/ELT data pipelines using Python, GitHub, and Docker containerization at a company passionate about doing right for the land, the rancher, and the world.

Tools: Python, H3, matplotlib, Salesforce, APIs, SQL, GitHub, Docker, Pydantic, Streamlit, cron, CI/CD, APIs, code review

Carbon Technical Manager · Grassroots Carbon

Aug 2024 – Aug 2025

San Antonio, TX (hybrid)

- Automated rancher eligibility screening processes using RShiny and Python through the Salesforce API.
- Provided geospatial data analysis using QGIS.
- Supported the navigation of carbon standards.

Tools: R, RShiny, Python, QGIS, LULC, geospatial analysis

GIS & Energy Data Analyst · University of Texas, Bureau of Economic Geology

May 2022 – Jul 2024

Austin, TX

- Leveraged R to clean and manipulate data tables, solve problems, and automate processes.
- Utilized ArcMap to aid in oil & gas research publications.
- Published research findings as papers, posters, and presentations.

Tools: big data, R, ArcGIS, geospatial analysis, data visualization

EDUCATION

Master of Arts: Economics and Big Data

Bachelor of Arts: Economics and Big Data

Bachelor of Science: Geographic Information Science

University of Oklahoma (Norman, OK)

Aug 2016 – May 2021 · *Summa cum laude*

SKILLS

Expert	R, RShiny, ArcGIS, QGIS, geospatial analysis, data visualization
Advanced	Python, GitHub, Salesforce, Big data, Pydantic, CI/CD, APIs, code review
Intermediate	SQL, Docker, Google Earth Engine, ENVI, Streamlit, cron, H3, matplotlib, Landsat, Sentinel-2, LULC, TerrSet, Trimble GPS
Strengths	Timely deliverables, Clear communication, Curiosity, Organization, Multitasking, Focus

RESEARCH

Smye, K. M., [Yut, K.](#), Reedy, R. C., Scanlon, B. R., Nicot, J. P., Hennings, P. (2024). [Challenges with managing unconventional water production and disposal in the Permian Basin](#). *AAPG Bulletin* 108 (12), 2215–2240.

Peng, S., Maraggi, L. M. R., Bhattacharya, S., [Yut, K.](#), McMahon, T., Haddad, M. (2023). Feasibility of CO₂ storage in depleted unconventional oil and gas reservoirs: Capacity, microscale mechanism, injectivity, fault stability, and monitoring. *URTeC*, 13–15 June 2023.

Bull, M., Francis, T., [Yut, K.](#), Weber, K., Spruce, J., Jarnevich, C. (2019). [West Virginia Ecological Forecasting](#). *NASA DEVELOP National Program*.

Kelley, S., [Yut, K.](#), Kulkarni, R., Gaffin, D. (2019). [Avoidance of rosemary oil by scorpions](#). *Journal of Arachnology*.