

# Charlotte J. Lloyd

char.lloyd@gmail.com  
www.charlottejlloyd.com

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**HARVARD UNIVERSITY**, A.M., Ph.D. Sociology, 2019  
Secondary Field: Computational Science and Engineering

**UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL** B.A. Comparative Literature & Political Science, 2011  
Morehead-Cain Scholar, Phi Beta Kappa, Senior Thesis Highest Honors, *summa cum laude*

Dr. Charlotte Lloyd, PhD is a social science researcher whose data analytics career has grown alongside emergent NLP, machine learning, and now GenAI technologies. With certifications in Human-centered Design and UX alongside years of experience consulting with public agencies, Dr. Lloyd brings a highly strategic skillset to aligning data analytics and automation technologies with key organizational processes and real user needs.

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## **CODECARGO, SOFTWARE ENGINEER**

**MAY-DECEMBER 2025**

- Developed AI monitoring and evaluation workflows for LLM-powered coding tools using LangSmith with LangChain/LangGraph traces to inspect model behavior, execution paths, and failure modes.
- Built and refined tooling for codebase dependency analysis, translating complex repository structure into interactive visualizations for engineering and product stakeholders.
- Designed and implemented performance evaluation for a code compliance LLM, coordinating multiple expert validation of model outputs to assess scoring accuracy, reliability, and edge-case performance.
- Collaborated across engineering, product, and sales functions to improve LLM prototype usability, clarify technical requirements, and implement observability and monitoring infrastructure.

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## **ABT ASSOCIATES, DATA ANALYTICS & SOLUTIONS ARCHITECT**

**2020-2025**

*Deputy Project Director*, Water Quality Dashboard, **Tar Creek Tribal Partners** (2023-2025). Co-led project management, including work planning and budgeting. Implementing needs assessment process to support design thinking session with large n=6 inter-tribal Working Group in Northeastern Oklahoma.

*Task Lead for User Experience Research*, Evaluation of **National Institute on Disability Independent Living and Rehabilitation Research**, Administration for Community Living (2023-2025). Created study design to address three distinct research questions related to findability and value of NIDILRR grantee-produced outputs to actual and potential users.

*Solutions Architect & Data Scientist*, Dietary Supplement Label Database, **Office of Dietary Supplements, National Institute for Health** (2021-2025). Co-created and scheduled Python scripts to regularly sample bestseller information from Amazon and Walmart APIs and store results in a SQL database. Used NLP to prioritize products for data entry. Led data engineering effort to support developing PowerBI dashboards on special interest topics (e.g., caffeine).

*Solutions Architect & Data Scientist*, Continuous Release Reports, **Office of Emergency Management, Environmental Protection Agency** (2023-2025). Designed and implemented automated processing solution for approximately 60,000 pages of material using AWS Textract. Trained and led team of 5 research assistants in manual coding procedure to finish the database.

*Social Scientist*, Rapid Case Study Assessment, **National Weather Service** (2023-2025). Contributed to objectives and mixed-methods research design for the Rapid Case Study Toolkit to assist NWS offices in conducting high-quality, replicable, and comparable social science research. Assisted with facilitation and incorporated feedback from Technical Working Group.

*Qualitative Researcher*, National Weather Service Social Network Analysis, **National Weather Service** (2023-2025). Contributed to qualitative research design with large cross-organization team. Conducted relevant literature review related to social network analysis for agent-based modeling. Carried out semi-structured interviews with key partners at the NWS.

*Technical Lead & Data Scientist*, AI/ML Phase II for the Lock Performance Monitoring System, **Institute for Water Resources, Army Corps of Engineers** (2023-2024). Led team of data scientists to develop a supervised machine learning model, including model selection, feature reduction and hyper-parameter optimization. Evaluated model performance, especially with respect to current policy solution. Assisted in deployment of models in cloud environment.

*Solutions Architect & Data Scientist*, Evaluation of Moving to Work, **Department of Housing and Urban Development** (2022-2023). Worked with the study team and developers to design workflow involving web-scraping hundreds of thousands of webpages. Co-trained and managed a team of 10 screeners determining text eligibility. Programmed screening criteria and automated emails in Python. Supported impact analysis and contributed to final report products.

*Solutions Architect & Data Scientist*, Economic and Policy Analysis Branch, **Office of Pollution Prevention and Toxics, Environmental Protection Agency** (2023). Ideated and developed replicable solution to update metadata of portable document files (PDFs) with Python.

*Technical Writer*, Nursing Home Staffing Simulation, **Center for Medicare & Medicaid Services** (2022). Led final report writing, shaping and synthesizing individual contributions from the staffing simulation team. Contributed to writing background, methodology and analysis. Conducted interviews with team members and distilled lessons learned for project close-out.

*Task Lead for Social Media*, Evaluation of **National Institute on Disability Independent Living and Rehabilitation Research**, Administration for Community Living (2022). Led exploration of the social media presence of over 300 NIDILRR grantees, including key elements of posts with high public engagement. Presented detailed recommendations for a social media research strategy grounded in client priorities and capabilities, and leveraging existing resources.

*Data Scientist*, Analysis and Strategic Engagement Report, **Office of Servicemember Affairs, Consumer Finance Protection Bureau** (2022). Supported complaint monitoring with NLP by calculating text similarity scores within multiple time periods of interest for the client.

*Qualitative Researcher & Data Scientist*, Evaluation of Regional Educational Laboratories, **Institute of Education Sciences** (2020—2022). Contributed to research design options and drafted study instruments. Scraped information on hundreds of REL partnership and products.

*Data Scientist*, Descriptive and Analytical Career Pathways Study, **Department of Labor** (2020-2021). Co-created research design to scrape and analyze over 1 million webpages on career pathways. Planned data collection, natural language processing and machine learning analysis workflow. Programmed frequentist and Bayesian meta-analysis and meta-regressions.

*Data Scientist*, Thriving Families Safer Children, **Casey Foundation Programs** (2020-2021). Worked with a team of data scientists identifying named entities and noun chunks using Python spaCy library to support both keyword extraction and knowledge mapping of the literature.

*Task Lead for Spatial Analysis*, **New Hampshire Preschool Development Grant Program** Performance Evaluation (2020). Calculated childcare access scores for nearly 50,000 NH families with children under 5 by programming the “enhanced two-stage floating catchment area” (E2SFCA) method in Python. Obtained, cleaned and wrangled Census, spatial and administrative datasets. Managed team members creating the interactive ArcOnline map.

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## CERTIFICATIONS

Nielsen Norman Group, **Certificate in User Experience**, Credential ID 1046013 (June 2024)

LUMA Institute, **Certified Practitioner of Human-Centered Design** (November 2023)

Amazon Web Services, **AWS Certified Cloud Practitioner** (Issued November 2023 • Expires November 2026)

CPrime Inc, **Microsoft Power BI Boot Camp** (July 2022)

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## PUBLISHED WORK

forthcoming: Johanna Dwyer, **Charlotte Lloyd**, Richard Bailen, Jaime Gahche, Karen Andrews, Pamela Pehrsson, Deepesh Panday, Pavel Gusev, Emily Connor, Carleen Ghio, Justin Stein. "Using Online Mega-Retailer Data to Identify Popular Dietary Supplements."

**Lloyd, Charlotte J.** [Researcher Extraordinaire](#). 2026. Custom, free, and public GPT. Built on ChatGPT Large Language Model, OpenAI.

Gülgönül Beyza, **C. Lloyd**, E. Karabıyık, Ö. Çetinkaya, S. N. Elden, and U. Kuruüzüm (2023). [Under the Cover of Night: Child Labor in Oriental Tobacco, Evidence from Western Türkiye](#). Ankara: Development Workshop Cooperative. (English-language report)

White, Alan, J., and Lauren E.W. Olsho (2023). Supporting Author: **C. Lloyd**. "[Nursing Home Staffing Study: Comprehensive Report](#)." Centers for Medicare & Medicaid Services.

Peck, Laura R., Schwartz, Deena, Strawn, Julie, Weiss, Christopher C., Juras, Randall, Mills de la Rosa, Siobhan, Greenstein, Nathan, Morris, Tori, Durham, Gabriel, & **Lloyd, Charlotte**. (2021). [A Meta-Analysis of 46 Career Pathways Impact Evaluations](#). Report prepared for the U.S. Department of Labor, Chief Evaluation Office. Rockville, MD: Abt Associates.

Mills De La Rosa, S., N. Greenstein, D. Schwartz, **C. Lloyd** (2021). "[Machine Learning in Workforce Development Research: Lessons and Opportunities](#)." US Department of Labor.

Bumgarner E., J. Stein, **C. Lloyd**, K. Loya, A. Checkoway, K. Murphy (2021). "[New Hampshire's Early Childhood System in the Time of COVID-19: Child Care Access and Regional Systems of Coordination](#)." NH Preschool Development Grant – Birth to Five.

**Lloyd, Charlotte**. 2019. "[Indigeneity and Sport in Reconciliation Action Plans](#)." The difference that identity makes, eds. L. Bamblett, F. Myers, and T. Rowse. Aboriginal Studies Press.

**Lloyd, Charlotte**. 2019. "Reconciliation Action Plans: Origins, Innovations and Trends." *Journal of Australian Indigenous Issues* (21/4, 2019).

**Lloyd, Charlotte**. 2019. "[Indigeneity and Sport in Reconciliation Action Plans](#)." *The difference that identity makes*, eds. L. Bamblett, F. Myers, and T. Rowse. Aboriginal Studies Press.

Levitt, Peggy, Jocelyn Viterna, Armin Mueller, and **Charlotte Lloyd**. 2016. "[Transnational Social Protection: Setting the Agenda](#)." *Oxford Development Studies*.

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## SKILLS

**CONSULTING** • Business Development • Client Engagement • IRB Oversight • Mentorship & Coaching • Project & Task Leadership • Proposal & Grant Development • Solutions Architect • Stakeholder Communication

**DATA SCIENCE** • Agile • AWS • Automated Workflows • Big Data Engineering • Cloud Platform Computing • Dashboard & Integrated Data Products • Data Lifecycle Management • Data Storytelling & Visualization • GenAI Ethics & Safety • LLM Observability, Monitoring & Evaluation • ML • NLP • Trace Data Analytics

**RESEARCH SCIENCE** • Content Analysis • Data Collection • Evaluation Design • Mixed-Methods Research • Participant-Observation • Participatory Research Methods • Qualitative & Quantitative Analysis • Research Ethics • Semi-structured Interviewing • Spatial Analysis • Survey Design • Technical Writing

**UX** • Design Thinking • Human-Centered Design • Information Architecture • ResearchOps • UX Research

**TOOLS** • Python • SQL • LangSmith • OpenAI • Anthropic • JS/TypeScript • STATA • PowerBI • Tableau • R • Excel • GitHub • BitBucket • SourceTree • Jira • Confluence • VS Code • Atlas.ti • NVivo • Zotero

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## SERVICE

**Zoomies Funny Farm**, Sanford, NC, *volunteer* (2024-present); **Feedwell Fridges**, *relief volunteer*, Pittsboro, NC (2025-present); **Lasagna Love**, *volunteer lasagna chef*, (2025); **Upwardly Global**, *career coach* (2023-2025).