Andrew Manigault, PhD

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PROFESSIONAL SUMMARY

Software Engineer with over a decade of research experience, specializing in building user-centric software solutions from data pipelines to flexible UIs. Strong problem-solving skills driven by a data-centric approach, combined with expertise in leading cross-functional teams and managing complex projects. Proven track record with over 25 peer-reviewed publications, demonstrating the ability to deliver high-quality, innovative solutions on time.

RELEVANT EXPERIENCE

Inductive Health Informatics   Jan 2023 – Present
Software Engineer II   *Atlanta, GA*

- Developed containerized tools/applications and software packages aimed at monitoring data quality for the National Syndromic Surveillance Program (NSSP)—a CDC branch that ingests high volume (~88% of emergency departments across the USA) HL7 health data for surveillance tasks.
- Improved NSSP operations by 1) easing access/use of data quality tools, 2) enhancing sharing of syndromic surveillance reports, 3) allowing CDC leadership to monitor utilization of tools/resource across the platform.
- Successfully maintained and added features to large suite of legacy NSSP web applications.
- Refactored legacy application backend to improve load times (~9x on average) and follow object oriented design patterns (e.g., dependency injection) that significantly eased operation and maintenance tasks.
- Trained machine learning forecasting models to estimate upcoming changes in disease rates based on seasonality.

Brown University – Center for the Study of Children at Risk   Sep 2021 – Jan 2023
Biostatistician   *Providence, RI*

- Developed R packages to support research center activities including infant cry acoustic analysis, latent growth curve modeling, multilevel modeling, data cleaning and visualization.
- Trained machine learning classifiers to identify neonatal opiate withdrawal syndrome using infant cry acoustics.

University of California Los Angeles   Sep 2020 – Dec 2021
Post-doctoral Research Fellow   *Los Angeles, CA*

- Developed R package to perform multithreaded transcriptomic origin analysis.

SKILLS

Programming Languages	R | Python | SQL | html | CSS | JavaScript | C# | Bash | SAS | MATLAB
Technologies	Linux | Docker/Podman | AWS | Git | Palantir Foundry | Unity
Analytic	Bayesian & Frequentist Statistics | Machine Learning | Multilevel Modeling

NOTABLE PROJECTS

Laboratory Analytics for Situational Awareness & Reporting (LASAR)   Jan 2025 – Present
Full-stack developer (frontend: html, CSS, JS, R; backend: python, SQL)   *Atlanta, GA*

- Developed a web application to track incoming laboratory data quality issues.
- Developed/maintained nightly ETL to refresh SQL tables containing key data quality metrics.
- Mentored a junior developer through development of UI, use of version control, and deployment of containerized web applications via Podman/Docker.
- Ported application frontend/backend to Palantir Foundry for CDC leadership to evaluate platform capabilities.

Data Products Analytic Dashboard (DPAD)   Sept 2024 – Dec 2024
Full-stack developer (frontend: html, CSS, JS, R; backend: python, SQL)   *Atlanta, GA*

- Developed backend to log user activities across multiple frontend applications via Flask REST API.
- Developed containerized web application to summarize user activity across the platform and export activity reports.

Data Quality On Demand (DQOD)   Sept 2023 – Present
Frontend developer (frontend: html, CSS, JS, R; backend: SQL)   *Atlanta, GA*

- Developed web application to generate highly granular/customizable .xlsx data quality reports via stored procedure calls to SQL server DB.

Publication and Reporting Enterprise for Syndromic Surveillance (PRESS)   Jan 2023 – Present
Frontend developer (frontend: html, CSS, JS, R; backend: python, SQL)   *Atlanta, GA*

- Developed web application frontend to search/browse, upload, and manage syndromic surveillance reports.
- Leveraged Flask REST API backend to allow full automation of app actions (e.g., uploads and updates) via cronjobs.

Hexpow   May 2021 – Jan 2022
Mobile Application developer (C# unity app)   *Providence, RI*

- Developed C# mobile game application via Unity and released it on the Google Play store.

EDUCATION

Doctorate – Experimental Health Psychology (**Psychoneuroendocrinology & Statistics focus**)   Sep 2016 – May 2020
Ohio University   *Athens, OH*

Masters of Science - Experimental Health Psychology (**Psychoneuroendocrinology & Statistics focus**)   Sep 2014 – May 2016
Ohio University   *Athens, OH*

Bachelor of Science – Psychology   Sep 2010 – May 2014
Montana State University   *Bozeman, MT*