

Anna Lu has 10+ years of experience managing cloud biomedical data platform development projects for government, hospitals, and industry to support scientific research, public health, and precision medicine.

She led technical development for NIH and CDC programs:

- CDC Data Modernization Accelerator [Advanced Molecular Detection Program, Bioinformatics](#)
- NIH OD [Rapid Acceleration of Diagnostics RADx](#)
- NCI [Clinical Trials Reporting Program \(CTRP\)](#)
- NCI/NIAID/CDC [COVID-19 SeroHub](#)
- NCI [Molecular Analysis for Therapy Choice \(MATCH\)](#)

She communicates with stakeholders to design biomedical data platforms, following FAIR/CARE data principles, ontology standards, Agile and DevSecOps best practices. She bridges scientific and technical teams to plan, design, and implement technical solutions on schedule and budget. She has developed AI/ML models for bioinformatics, precision medicine, clinical trials, and medical devices.

She mentors girls in STEM with 500 Women Scientists, ACM, SWE, Girl Scouts, and Mark Cuban AI Foundation.

Areas of Expertise and Qualifications

- ✓ **Agile Project Management and DevSecOps**
- ✓ Cloud Data Platform and App Development
- ✓ Bioinformatics Data Platform Engineering
- ✓ Genomic, Epi, Clinical Data Management

Experience

- **Booz Allen Hamilton, 2017-18, 2021 - Present**
- Essex Management 2018 - 2021
- Children's Hospital of Philadelphia, 2015 - 2016

Education

M.S. IT Project Mgmt., UMGC in progress
B.S. Biomedical Eng., Computer Science Drexel

Clearances and Certifications

- **CDC & NIH Badged, Public Trust 2018 - present**
- Final DoD Secret Clearance 2018 - 2023
- Certified Scrum Master 2021, IC Agile 2018
- AWS Certified Developer Associate 2017 – 2019
- Massive Data Mining Stanford 2014

WORK EXPERIENCE

Bioinformatics Lead, CDC Center for Emerging Zoonotic Infectious Diseases, Booz Allen 2024 – Present

- Led viral, tuberculosis, and fungal teams in the Advanced Molecular Detection Program towards developing and testing operational Nextflow bioinformatics workflows on application and AWS Cloud.

Analytics Lead, Senior Data Scientist, NIH Office of Directorate, Booz Allen 2023 – 2024

- Developed an analytics workbench for RADx researchers to analyze controlled dbGaP and open-access COVID data using Jupyter, Python, R, SAS, and SageMaker AI/ML models, and cloud cost control with STRIDES

Cloud Project Manager and Tech Lead, NIH NCI, NIAID, CDC, Booz Allen 2021 – 23

- Project Manager and Tech Lead for SeroHub, COVID-19 serology [\[Nature 2022\]](#)
- AWS Cloud Migration Project Manager for the Clinical Trials Reporting Program (NCI-CTRP)
- Migrated low - moderate FISMA systems and FedRAMP tools to NCI AWS Cloud One per NIST 800-53
- Applied DevSecOps and FinOps, data pipelines, ReSTful APIs integrated UIs, data quality and software testing, Infrastructure as Code, containerization, CICD, and cloud cost control strategies with STRIDES

Senior Software Engineer, National Cancer Institute, Essex Management 2018 – 21

- Project Manager and Tech Lead for SeroHub, a web app visualizing COVID-19 serology nationwide
- Developed and tested production code for NCI-MATCH a precision medicine clinical trial matching 6000+ cancer patients to treatments with genomic variant analysis and Maximum Likelihood Estimate models
- Tech Stack: AWS, Python Lambdas, API Gateway, MongoDB, OpenSearch, Flask, VueJS
- Provided T3 engineering support for cancer centers, systems requirements analysis and design

Software Engineer, Substance Abuse & Mental Health Services Administration, Booz Allen 2017 – 18

- Architected a geolocation aware map-based search interface to help people find substance abuse and mental health treatment resources using natural language processing reinforcement learning models, entity extraction, geolocation, context-aware fuzzy search on SNOMED, DSM-5, PubMed embedded word vectors
- Model training, testing, and evaluation with K-fold cross validation, ROC, and precision recall curves.
- Tech Stack: Python, React, Tornado API, OrientDB, Elasticsearch, EC2, Docker, Jenkins

Senior Design Partner, Infrascanner and Conquer Collaborative 2016 – 17

- Developed functional Near Infrared (fNIR) signal de-biasing using Kalman filtering to detect oximetry, hematoma, edema in traumatic brain injuries. Designed for MIL-STD 810h compliance, portable, non-invasive device use in noisy environments (e.g. football, combat, and helicopter transport)
- Collaborated with [Infrascanner](#) and Conquer Collaborative, Cognitive Neuroengineering and Quantitative Experimental Research at Drexel University. Tech: PyWavelets, PyQt, EC2, Grafana, Influx DB, C/C++

Bioinformatician, Child Brain Tumor Tissue Consortium, Children's Hospital of Philadelphia 2015 – 2016

- Developed bioinformatics pipelines and cloud infrastructure for a cancer genomics data hub, [cBioPortal+](#)
- Normalized and mapped 38TB of RNA-seq genomic data to associated studies for [Cavatica](#)