

Chelsea Doop

linkedin.com/in/chelseadoop | doop.chelsea@gmail.com | (727) 244-2976 | chelseadoop.com

Graduate student in Biological Data Science with experience in computational biology, genomics, clinical research, and healthcare. Experienced analyzing biological, genomic, clinical, and public health data using R, Python, SQL, JMP, and statistical methods. Graduate and research work includes gene expression analysis, database development, regression, clustering, data visualization, and biological research.

EDUCATION

Master of Biological Data Science | Arizona State University | Tempe, Arizona

Currently Enrolled | Expected May 2027

- Coursework: Data Science for Public Health (in progress), Statistics for Biological Data Science 1 & 2, Intro to Python Programming, Database Systems & Python.
- Involvement: IDEAS Society at ASU Member.

Bachelor of Science, Biological Sciences | Arizona State University | Tempe, Arizona

August 2025

- Coursework: Undergraduate Research, Technical and Scientific Writing, Genetics, Evolution, Functional Genomics, Microbiology, Conservation of Biodiversity, Biostatistics, Organic Chemistry.
- Involvement: IDEAS Society at ASU Member.

Associate of Arts | Spokane Community College | Spokane, Washington

December 2019

TECHNICAL SKILLS

Programming and Analysis: R; Python; SQL; Bash; pandas; JMP; Microsoft Excel

Statistical Methods: Exploratory data analysis; descriptive statistics; multiple regression; principal component analysis (PCA); hierarchical clustering; K-means clustering; confidence interval estimation

Databases and Data Management: MySQL; relational database design; data cleaning and transformation; SQL joins and aggregation

Bioinformatics/Genomics Tools: IGV; Cancer Cell Line Encyclopedia (CCLE); Ensembl; GWAS Catalog; gene expression analysis; genomic data visualization; Linux/Unix command line; High Performance Computing (HPC)

Visualization: ggplot2; Matplotlib

Clinical Research and Systems: Medidata Rave; Veeva; RealTime CTMS; EDC; EMR; GCP Certified; IATA (Category A & B) Certified; FDA and HIPAA compliance

Laboratory: DNA extraction; cell passaging; biological specimen aliquoting and processing; aseptic technique; laboratory safety

General: Scientific and technical writing; literature review; Microsoft Office; CPR/BLS Certified

PROFESSIONAL EXPERIENCE

Clinical Research Coordinator (Clinical Screening Coordinator) | Centricity Research | Rincon, GA

March 2026 - August 2026

- Managed participant screening, informed consent, enrollment and randomization for 10 pulmonology and sleep medicine clinical trials.
- Reviewed hundreds of medical records, laboratory results, imaging, spirometry, medications, and sleep study reports to identify and qualify eligible participants according to study protocols.
- Conducted informed consent, answered participant questions, scheduled baseline visits, completed randomization, and documented study activities in Medidata Rave, Veeva, and RealTime CTMS.
- Worked directly with investigators, CRAs, sponsors, and medical monitors to resolve eligibility questions, respond to sponsor queries, and facilitate participant enrollment.
- Collected and processed biological specimens, including blood samples, performed spirometry, ECGs, vital signs, PK processing, centrifugation, urinalysis, frozen sample processing, and IATA compliant specimen shipments.
- Developed a prescreening tracking process that streamlined recruitment updates for sponsors and CRAs, improved communication, and reduced unnecessary correspondence.

- Identified and qualified participants for studies that had remained open for months without enrollment, contributing to successful participant enrollment.

Certified Nursing Assistant | Select Specialty Hospital | Savannah, GA

May 2021 - March 2026

- Provided long-term acute care for ventilated and medically complex patients.
- Maintained patient safety through sterilization and equipment decontamination.
- Preceptor for new staff and contributor to improved orientation/training processes.

Home Health CNA | Addus HomeCare | Spokane Valley, WA

July 2016 - February 2021

- Supported clients with hygiene, mobility, and daily living tasks.
- Provided patient transport to appointments and essential services.
- Assisted with medication administration and reminders, and maintained safe home environments.

Customer Service Agent | Alorica | Spokane Valley, WA

October 2015 - June 2016

- Handled calls related to employer-funded financial accounts; resolved discrepancies and escalated complex issues.

Multi-Department Associate | Kohl's Corporation | Spokane Valley, WA

July 2014 - November 2015

- Managed inventory, cash handling, and customer service while maintaining store organization and cleanliness.

CNA/Restorative Aide | Harbourwood Nursing and Rehab | Clearwater, FL

March 2010 - June 2014

- Assisted patients with ADLs; supported restorative exercise programs; documented patient progress.

Nursing Assistant/Restorative Aide | Senior Healthcare | Clearwater, FL

November 2008 - July 2009

Rehabilitation Technician | PeopleFirst Rehabilitation | Clearwater, FL

October 2007 - May 2009

- Maintained therapy equipment, prepared documentation, and assisted PTs with therapeutic exercise instructions.

RESEARCH EXPERIENCE

Genomics Undergraduate Researcher - Wilson & Plaisier Lab | Arizona State University | Tempe, AZ

September 2023 - December 2023

- Analyzed gene expression data from cancer cell lines using the Cancer Cell Line Encyclopedia (CCLE) and R to investigate sex chromosome composition.
- Applied computational and statistical approaches to biological data and interpreted findings in the context of genomic research.
- Used command-line tools and IGV to explore and visualize genomic data.

Undergraduate Independent Researcher - Holechek Lab | Arizona State University | Tempe, AZ

September 2023 - October 2024

- Conducted independent research using the All of Us Research Program database to investigate associations between sex hormone fluctuations and Hashimoto's/autoimmune thyroiditis.
- Performed statistical analysis of biological and clinical variables relevant to the research question.
- Presented independent findings at BioSci Symposium - October 2023.

Undergraduate Biology Researcher - Lei Lab | Arizona State University | Tempe, AZ

January 2023 - May 2023

- Conducted experimental research examining the effect of temperature change on honeybee queen oviposition.
- Collected and evaluated biological data and interpreted experimental findings.
- Presented findings at 30th Annual SOLS Symposium - April 2023.
- Received Honorable Mention in Conservation and Ecology.

SELECTED COMPUTATIONAL PROJECTS

Drinking Water Contamination & Cancer Incidence Analysis | Data Science for Public Health | Arizona State University

In Progress, Fall 2026

- Developing a county-level analysis examining the association between drinking water contamination and cancer incidence across Georgia.
- Integrating U.S. EPA Safe Drinking Water Act data with age-adjusted cancer incidence data from the Georgia Department of Public Health.
- Preparing multi-year environmental and public health data for statistical analysis and comparison across Georgia counties.

IUCN Red List Biological Database | Database Systems & Python | Arizona State University**Spring 2026**

- Developed a relational MySQL database for IUCN Red List marine mammal data using Python, pandas, SQL, and MySQL.
- Cleaned and transformed taxonomic and species occurrence data into normalized relational tables representing species, genus, family, conservation category, and country occurrence.
- Designed primary and foreign key relationships and used Python to load processed biological data into the database.
- Developed SQL queries using joins, filtering, grouping, and aggregation to investigate threatened species patterns and visualized results using Matplotlib.

Mammalian Sleep & Gestation Multivariate Analysis | Biological Data Science II | Arizona State University**Fall 2025**

- Analyzed biological data from 79 mammalian species using JMP to investigate relationships among gestation length, total sleep time, REM sleep, and non-REM sleep.
- Applied multivariate analysis, PCA, and multiple regression to evaluate relationships among correlated biological variables.
- Performed hierarchical and K-means clustering and evaluated alternative cluster solutions using the Cubic Cluster Criterion.
- Interpreted model fit, component loadings, statistical significance, and clustering results in a biological context.

Epigenetic Regulation in Hashimoto's Thyroiditis | Computational Genomics Project | Arizona State University**Fall 2022**

- Investigated the relationship between epigenetic regulation, noncoding RNAs, and the gut microbiome in Hashimoto's thyroiditis.
- Used Ensembl, the Gene Expression Omnibus (GEO), GWAS literature, and Expression Atlas to identify genomic resources and develop a computational strategy for investigating differential gene expression.
- Evaluated the role of lncRNAs, miRNAs, and circRNAs in autoimmune disease and proposed methods to integrate genomic and microbiome data.