

Cassandra Alvarado

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Education

Master of Science, Epidemiology

University of Basel & Swiss Tropical and Public Health Institute

Thesis: MATHEMATICAL MODELLING OF COVID-19 TO SUPPORT EUROPEAN UNION DECISION MAKING

- Collaborated with ECDC and multiple modelling teams across Europe to support the European Commission on vaccination campaign recommendations
- Establish a streamlined pipeline within OpenCOVID for the automated retrieval of temporal epidemiological data from selected sources for calibration (<https://github.com/SwissTPH/OpenCOVID>)
- Responsibly used a high-performance computing cluster to run numerous simulations in parallel

08/2023

Basel, Switzerland

Bachelor of Science, Biological Sciences

University of California, Santa Barbara

Emphasis in Molecular, Cellular, and Developmental Biology

06/2019

Santa Barbara, USA

Professional Experience

Mathematical/Statistical Modelling and Health Systems Consultant (Contract)

The Global Fund to Fight AIDS, Tuberculosis and Malaria

- Explored facility level data of 70 countries to visualize factors which make a resilient facility and cluster factors using unsupervised ML to reduce the dimensions of the dataset
- Employed advanced NLP and supervised machine learning techniques to efficiently categorize budget data for over 100 countries, streamlining financial analysis processes for future grant cycles
- Provide technical assistance on RSSH (Resilient and Sustainable Systems for Health) mathematical/statistical models that aim to quantify how RSSH investments impact outcomes
- Review WHO guidelines and other normative guidance for HIV, TB, malaria, and health system to identify commonalities amongst the guidelines, with a focus on measurable indicators that relate to RSSH focus areas

10/2023 – present

Remote/Geneva, Switzerland

Graduate Research Assistant - Disease Modelling and Intervention Dynamics

Swiss Tropical and Public Health Institute

- Designed and conducted a comprehensive systematic review of over 600 articles to evaluate the efficacy of malaria vaccines
- Assisted in synthesizing and analyzing the findings from literature review, contributing to the development of accurate RSV model parameters

01/2023 – 08/2023

Allschwil, Switzerland

Graduate Research Assistant - Household Economics and Health Systems Research

Swiss Tropical and Public Health Institute

- Assisted with systematic review and meta-analysis looking into the relationship between cognitive ability and earnings
- Used statistical knowledge to accurately extract and transform relevant data

05/2022 – 12/2022

Allschwil, Switzerland

Medical Laboratory Assistant II - Surgical Pathology Lab

Cedars-Sinai Medical Center

- Accurately reviewed, transcribed and entered demographic/specimen data (including ICD-10 codes) into the laboratory information system for over 300 specimens daily
- Assisted Pathologist Assistants in preparing biological specimens for grossing
- Identified problems with specimen types, missing information, etc. and resolve them independently

01/2020 – 08/2021

Los Angeles, USA

Research Associate I (Per Diem) - Biobank & Translational Research Core

Cedars-Sinai Medical Center

- Initiated organizing, cleaning, and identifying problems in data over 10 years old
- Responsible for collecting, transporting, processing, annotating and storing biospecimens for biomedical research

09/2020 – 02/2021

Los Angeles, USA

Data Skills

R | STATA | Statistical methods and models | Git version control | SQL (Beginner) | Predictive modelling | Story telling
| Communicate methods/results to non-technical audience | Python | Supervised/Unsupervised Machine learning |
Research data management | High-performance computing clusters | Data visualization | Natural Language Processing

General Skills

Literature Review | Infectious Disease Modelling | Bilingual (English & Spanish) | Epidemiological methods |
Project Management | Science communication | Advocate for underrepresented groups | Self motivated