

# Carter Allen

Biophysicist building Lab Automation solutions for the life sciences from first principles.

Portfolio Website: [www.carter-allen-builds.com](http://www.carter-allen-builds.com)

## WORK EXPERIENCE

### Monomer.bio Pacifica, CA – Contract Field Applications Scientist

AUG 2021 - PRESENT

Consult with ~10 different clients in the Bay Area and internationally to help design, develop and validate automated laboratory processes. Projects range from early R&D to Production processes.

- Map laboratory processes, advise on appropriate automated equipment (e.g. Opentrons, Hamiltons) and design methods
- Determine software and hardware requirements for custom solutions

### Myriad Women's Health (formerly Counsyl) South SF, CA – Automation Process Development Engineer II

SEP 2019 - APR 2021

Developed and translated late R&D into new and existing automated production processes in an NGS diagnostic laboratory on Tecan, Biomek, and Agilent Bravo Liquid handlers.

- Established acceptability criteria, developed liquid handling methods, created IOPQ processes for the clinical lab

### uBiome Inc., San Francisco, CA — Lab Automation Engineer I

DEC 2018 - SEP 2019

Developed and supported laboratory operations to optimize clinical performance in a CLIA/CAP/ISO microbiological DNA Sequencing (NGS) lab

- Transferred automated liquid handling platform from R&D into production, applying the medical device design process
- Established QC checkpoints on existing clinical pipelines during transfer of new liquid handler, decreased sample failure by ~15%

### Zipurski Lab, Los Angeles, CA — Lab Automation Designer

MAR 2018 - DEC 2018

Invented a robotic platform to track changes in the growth of *d. melanogaster* using a repetitive imaging protocol.

- Designed and simulated the hardware using Solidworks to keep a detailed bill of materials for traceability and robust iteration
- Developed the software to run the robotic processes using Python
- Decreased hands-on time in lab by ~90% from 10 hours to ~1 hour

### GeneFluidics, Monrovia, CA — Mechatronic Engineering Intern

JUN 2017 - SEP 2017

Developed a medical device as part of a team measuring bacterial content in human samples with an electrochemical assay

## EXTRACURRICULAR

### Bruin Home Solutions, Los Angeles, CA— Hydroponic Team Lead Designer

APR 2017 - MAR 2018

### UCLA iGEM, Los Angeles, CA — R&D Associate/Spider Silk Validation

DEC 2014 - SEP 2015

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## EDUCATION

### University of California, Los Angeles - 2018

Bachelors of Science in the Physical Sciences – Biophysics

Relevant Coursework:

- Mathematical Methods
- Molecular Biology
- Dynamical Systems,
- Physics of Biology

## INVENTION

### Stagemaster 2000 –Primary Inventor

Patent Filed in March of 2019 by UCLA Inventions.

Imaging device designed to capture the results of Neuromorphic knockouts in fly larvae. [Link](#)

## SKILLS

Liquid Handling (Tecan, Biomek, Bravo)

3D- Modeling (Solidworks, OnShape)

Process Development

Programming

Lab Automation

Quality Control

## VOLUNTEERING

### UCLA Camp Kesem Counselor

-2018

### Muscular Dystrophe Association

Camp Counselor 2012 - 2014

## LANGUAGES

Fluent: English

Basic Proficiency: Spanish, Mandarin

Technical: Python, C++, MATLAB, Mathematica, LABVIEW

## MISCELLANEOUS

American Ninja Warrior Finalist

Climber, Mountaineer

