

## WORK EXPERIENCE

### Research Internship at Bailey Plant Simulation Lab

March 2018 - Present

- Developing UI for crop simulation and data projection application *Cronus*
- Modifying LiDAR point cloud scan data of crop fields into 3D meshes for immersive observation with the HTC Vive Head Mounted Display in Unreal Engine's VR game environment

### CCIA Crop Inspector

May 2018 – August 2018

- Sunflower crop inspecting involving record keeping and working with agronomists to prevent weed, pest, and maturity problems

### UC Davis IET – Student Staff

October 2015 – December 2015

- Scripted, recorded, and published customer support tutorial videos intended for the UC Davis internet user base

### Accenture – Contractor

July 2014 – Sept. 2014

- Worked at a “diamond client” project and successfully completed migration of the project documentation from DocuWiki to a new Mediawiki site. Worked with various teams to consolidate their individual documentation, trained project staff to use the new wiki and performed technical handoff.

## EDUCATION

### University of California, Davis

Jun. 2019

*Bachelor of Science, Plant Science*

*Emphasis: Genetics and Plant Breeding*

*Relevant Coursework:*

Single & Multivariable Calculus, Linear Algebra, Differential Equations, MATLAB Programming, Circuits, Applied Statistics for Bio Sci, Genes & Gene Expression, Plant Genetics, Plant Metabolic Processes, Plant Growth and Yield, Plant Biotechnology, Forage Crop Production, Plant Breeding, Plant Propagation, Organic Crop Production, Macroevolution, Integrated Pest Management, Plant and Crop System Modeling, Greenhouse and Nursery Crop Production

## SKILLS

### Lab Skills:

Biology and chemistry lab procedures  
Micropropagation  
Agrobacterium culture  
Leafdisk inoculation  
Gel electrophoresis of RT-PCR products  
Northern blot  
Western blot  
Quantitative GUS analysis  
PCR and DNA isolation of transformed tissue  
Isolation and analysis of proteins  
Bioinformatics and gene database investigation  
Plant growth tracking  
Fertigation system design  
Industrial scale vertical hydroponics assembly

### Interests:

General Systems Theory, 3D Animation, Game Development, Filmmaking, Painting, Independent Music Production and Flameworking

### Programming skills

Python & C#  
MATLAB  
HTML & CSS  
PHP  
UNIX command line

### Software skills:

SolidWorks  
Excel  
WordPress  
BLAST  
R Studio  
Git source control  
Unreal Engine  
Adobe Creative Cloud  
Blender  
Unity

Ableton Live 9  
ARC GIS  
APSIM

## PROJECT EXPERIENCE

### Selective Breeding with Brassica Rapa

Jan. 2018 – Mar. 2018

- A breeding project carried out for increasing leaf trichome number in a population of Brassica Rapa
- Significant increase of 1.4 standard deviations of the mean reported in the progeny generation

### Foundations of Biosystems Engineering Algal Bioreactor Project

Jan. 2017 – Mar. 2017

- Original design and construction conceived for the purpose of cultivating algae and potentially extracting ethanol-based biofuels
- Project limitations included carbon footprint, energy efficiency, and portability

### MATLAB Audio Sampler

Mar. 2016

- Music editing and creation application written in the MATLAB environment
- Functionality included playback, interactive waveform visualization, high pass filter, analog synthesizers, BPM and tempo adjustment, and audio filters such as high pass and vocal removal