Aditya Nirgun

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SKILLS & INTERESTS

Lab Skills: Biology and chemistry lab procedures, micropropagation, agrobacterium culture, leaf-disk inoculation, gel electrophoresis of RT-PCR products, northern blot, western blot, quantitative GUS analysis, DNA isolation and PCR analysis from transformed tissue, isolation and analysis of proteins, bioinformatics and gene database investigation, plant growth tracking, fertigation system design, assembly of full scale industrial vertical hydroponics system including lighting and irrigation

Programming skills: Python, C#, MATLAB, HTML, CSS, PHP, UNIX command line, ARC GIS, and R

Software skills: Excel, WordPress, BLAST, R Studio, Git source control, LiDAR Viewer, VRUI, RiScanPRO, Unreal Engine, Adobe Photoshop, Adobe InDesign, Adobe Premier Pro, Blender, Unity, Ableton Live 9

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.

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

EDUCATION

University of California, Davis Expected Jun. 2019

Bachelor of Science, Plant Science

Emphasis: Genetics and Plant Breeding