JOHN WHITWORTH

driven to get hands-on with engineering problems that require creativity, balance, and leadership

Plenty

Staff Mechanical Engineer, Systems Integration — Oct. 2023 - Now

Define requirements, interfaces, integrated design concepts, and processes at the farm level to ensure subsystem designs successfully integrate into a cohesive production farm that achieves its overarching functionality. Form and lead tiger teams to target critical automation improvements in existing farms.

- Leg tiger team to retrofit entire automated production line to reduce friction on grow containers
- Led tiger team to reduce machine cycle time by 45% and increase availability by 40% within 4 months
- Ensure complete documentation of design changes in support of operations and maintenance partners
- Collaborated externally to develop complete accumulation & recovery analysis of entire farm
- Drove cross-collaborative design and communication for new crop type grow rooms
- Serve as the automation team's subject matter expert on hygienic design

Senior Mechanical Design Engineer — Sept. 2020 - Oct. 2023

Provide direction as the Lead Engineer on the development of 2nd generation automated machines and systems, from concept through production. Mentor team-members, setting the direction for team standards (design reviews, authoring templates & guides) and culture (cross-team relationships, hiring practices).

- Led full-lifecycle design and fabrication of automated Seeder, the 1st machine deployed in Los Angeles
- Drove design changes on frames containing a high-pressure washing process, reducing leaks to none
- Collaborated with our fabricator on a DFM cycle of the above machine frames, reducing cost by 35%
- Designed system for accurate, robust, and repeatable location of 50+ regularly-maintained nozzles
- Developed and executed precise test, validation, and install plans for the above machines
- Collaborate on complex mechatronic designs that meet stringent, best-in-class industry standards
- Diversity, Equality, and Belonging Engineering Council Member

Mechanical Design Engineer — Aug. 2018 - Sept. 2020

Executed as the co-architect of Plenty's 1st young plant system, from seeds through developed seedlings. Provided critical integration between plant science, software, lighting/environment, and automation teams.

- Designed & deployed automated system with 8 machines and 3 grow spaces; from concept to production
- Designed function-driven mechanical assemblies that properly utilize pneumatics, motors, and sensors
- Managed international automation partner; collaborating on designs and driving buy-off checkpoints
- Scaled young plant system for output growth from current 50+ stores to 500+ stores (Los Angeles farm)

Mechanical Design Engineering Intern — Summer 2017

Led design initiatives within a small team at an early-stage company to develop an automated vision for Vertical Farms. With our prototypes, we raised a $200M series B, the largest ever AgTech funding deal.

- Designed, built, tested, and further developed automation prototypes for harvesting and planting
- Collaborated across teams to design, validate, and procure 10,000+ injection molded plant containers
- Inventor on 5 published patents for novel hardware in hydroponic farming

JOHN WHITWORTH

Product Realization Lab

Teaching Assistant June 2016 – June 2018

◆ Supervised and advised 500+/yr students in Stanford's maker lab
◆ Co-Taught Design & Manufacturing course for 85 students

Stanford University

B.S. & M.S. in Mechanical Engineering (GPA 3.80 & 3.95) 2016 / 2018

◆ Mechatronics Depth & Product Realization Breadth
◆ President of Stanford Outdoors & Founding Member of Stanford's Climbing Team

Industrial Automation Technologies, Leadership, Hygienic Design, Project/Vendor Management, Mechatronics, System Integration, Multi-Fidelity Prototyping, Manufacturing & Fabrication, Design Thinking, CAD (SW, Catia), PDM(3DX, SW-PDM), PLM (Arena), Having Fun in the Mountains