

JOHN WHITWORTH

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

Plenty

EXPERIENCE

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.

- ◆ Led 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

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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

EDUCATION

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

SKILLS

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