Evan Bosia

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Robotics engineer with two years of hands-on experience solving hardware and software problems in an R&D setting on a mechatronic instrument. Seeking opportunities to apply multi-disciplined skillset to new challenges.

SKILLS

Mechanical: design, prototyping, CNC mill, 3D printing, laser cutting, CNC lathe, CAM, mechatronics
Electrical: robotics, embedded, sensors, circuits, machine vision, Arduino, Raspberry Pi
Software: Python, C#, C, MATLAB + Simulink, Java, ROS, C++, HTML + CSS, Linux, object-oriented
Applications: SolidWorks, Onshape, Jupyter, Git, Pycharm, Visual Studio, ImageJ

EXPERIENCE

R&D Mechanical Engineer - Formulatrix August 2017 - Present

Responsible for R&D and support of hardware and software of the dPCR branch of Formulatrix, including the transition of the Constellation dPCR system to Qiagen.

- Developed and implemented automation to increase the production limiting step rate by 500%
    - Thousands of plates of different sizes and types have been processed using the tool
- Created an algorithm to dynamically measure thousands of fluorescent particles in an image
- Wrote dust detection script to remove human-bias from microplate QC
- Automated image scoring to quantify and objectively compare dPCR randomness quality
- Prototyped pneumatic thermal cycler to test samples at a 16x faster rate than Constellation
- Built temperature measurement plate to check uniformity and surface response of thermal cycler
- Augmented customer support by creating Python scripts to parse instrument logs for data
- Managed ten active customers as the lead support engineer for the Constellation instrument

Dynamic Systems Engineering Intern - Alpinax May-August 2016

Designed mechatronic systems to improve the filming and surveying capabilities of Alpinax.

EDUCATION

Worcester Polytechnic Institute 2013 - 2017
Bachelor of Science (B.S.) in Robotics Engineering and Mechanical Engineering GPA 3.75/4.0
Rho Beta Epsilon (Robotics) Honor Society
Tau Beta Pi (Engineering) Honor Society

Relevant Projects

- Developed temperature-controlled package to ensure the safe transport of vaccines by drone
- Devised algorithm to autonomously navigate and map an unknown area
- Wrote controls and inverse kinematics to sort blocks with a robotic arm