Evan Bosia

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Computer science graduate student with three years of robotics research and development experience. Excels at finding intelligent solutions to difficult technical challenges. Graduating in September 2021.

SKILLS

Skills: object oriented design, robotics, machine learning, machine vision, distributed systems
Languages: (advanced) Python
 (proficient) Java, C++, C#, C, Go, HTML, CSS, Javascript
Software: Git, Linux, OpenCV, ImageJ, Pandas, ROS, SQL
Engineering: SolidWorks, Arduino, Raspberry Pi, 3D printing, CNC machining, soldering

EXPERIENCE

R&D Mechanical Engineer - Formulatrix   2017 - 2020
Responsible for R&D and support of the hardware and software of the dPCR branch of Formulatrix, including the $260M transition of the Constellation dPCR system to Qiagen.
- Managed technical support for ten Constellation instruments at customer sites
- Developed computer vision "poking" tool to five-fold increase the production step throughput
  - Thousands of plates of different sizes and types have been processed using the tool
- Created a machine-vision algorithm to accurately and quickly classify thousands of samples
  - Currently used on production instruments to accurately determine dPCR concentration
- Trained defect scoring model to remove human bias from microplate QC
- Implemented randomness scoring script to quantify and compare dPCR amplification quality

PROJECTS

Drawbot
- Repurposed an old 3D printer into a raspberry pi controlled CNC pen-plotter
- Programmed rectilinear fill and spiral fill patterns to convert images to gcode
- Composed Flask server to allow file uploads and control on network

BU Projects
- **Distributed Systems:** Wrote linearizable distributed key-value store in Go following the RAFT algorithm
- **Object Oriented:** Created text-based RPG game in Java using object oriented design patterns
- **Geometric Processing:** Implemented Connected Fermat Spirals algorithm for single curve fill of 2D objects

EDUCATION

Boston University   2020 - current
Master of Science (M.S.) in Computer Science (Graduating September 2021)
- **Courses**: Distributed Systems, Image Computing, Object Oriented Programming, Advanced Algorithms, Geometric Processing, User Centric Computing

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