KWABENA ARTHUR

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EDUCATION

Massachusetts Institute of Technology (MIT)
B.S. in Mechanical Engineering, Physics
M.Sc. in Mechanical Engineering
GPA: 4.4/5.0
Sept 2013- June 2017, Sept 2018-June 2020

Relevant Coursework

Design and Manufacturing I & II	Machine Learning
Mechanics and Materials I & II	Optics
Dynamics and Controls I & II	Engineering Systems Development
Product Design and Development	Measurement and Instrumentation

SKILLS

Design	CAD (Solidworks, Onshape, Autodesk), CAM (MasterCAM), Electronics (Kicad, EagleCAD)
Fabrication	Injection molding, machining, microcontrollers, soldering, rapid prototyping, 3d-printing
Programming	Python, C++, Matlab; Tensorflow, Sci-kit Learn

SELECTED WORK EXPERIENCE

June 2021 – Present — **Labby Inc**, Head Data Scientist
- Generated and trained several ML algorithms for milk composition estimation
- Planned and executed on several data collection runs to improve quality
- Researched into new modelling strategies and fluorophore target analytes
- Worked with software and product developers to implement cow RFID logging
- Planned and executed several experiments to validate new prototypes and directions
- Implemented new device calibration procedures
- Performed CAD and fabrication of various prototypes for new measurements, RFID

Aug 2020 – June 2021 — **MIT Mechanical Engineering Department**, Research Associate

Aug 2017 – Sep 2018
- Designed and implemented AI algorithms in both supervised and unsupervised tasks
- Designed and built electronic, robotic, computational and optical hardware
- Involved in several publications, communicated results with sponsors
- Designed and led data collection efforts for various computer vision tasks

Summer 2016 — **Mechatronics Lab**, UROP
- Refined rudder design of pipe inspection robot in Solidworks
- Documented and assembled various iterations of robots including bespoke motor
- Fabricated parts and components using FDM printing, epoxy resin, machining.

Summer 2015 — **Kavli Institute for Astrophysics and Space Research,** UROP
- Worked with instrumentation team on CCD quality testing
- Create electronic footprints libraries in Osmound PCB
- Developed scripts for generation of data timing diagram

PROJECTS

Spring 2017 — **MIT 2.013 Engineering Systems Design**, Mechanical Engineer
- Improved the design of an emergency energy system
- Designed, implemented, and tested new reaction regulation method

Fall 2018 — **MIT 2.760 Global Engineering**, Mechanical Engineer
- Co-led team of 6 in designing a new filter from drip irrigation in developing countries
- Introduced new concept direction allowing for filtration
- Design, fabricated, and tested prototype of filter

ACTIVITIES

Fall 2019 — **Controls and Dynamics II,** Teaching Assistant
Taught a lecture and ran office hours for Controls and Dynamics II class.

Sep 2018 – June 2020 — **MakerWorkshop**, Mentor
Mentored users in student-run machine shop on campus.