KWABENA ARTHUR

Portfolio: thekjarthur.github.io | Email: thekjarthur@gmail.com | Phone: +1-617-800-6842

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
- Modified firmware for handheld and inline devices; created new firmware for a prototype to evaluate multiple excitation LEDs
- Designed and fabricated new enclosures for RFID module
- Designed and fabricated custom fluorescence testing rigs for reflection and transmission mode measurements
- Defined quality metrics and calibration procedures for mid-volume units
- Trained, validated and deployed ML algorithms for milk composition estimation

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, and communicated results with sponsors

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 3d-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
- Revolutionized design, of an emergency energy system allowing for non-military users
- Designed new reaction regulation method
- Fabricated prototypes and tested reaction rates of improved product

Fall 2018 — **MIT 2.008 Design and Manufacturing II**, Mechanical Engineer
- Worked on a team of 4 to produce the designs and tooling for a camera-inspired yoyo
- Owned the design, tooling and fabrication of the lens and lens cap
- Designed parts following DFMA principles, specifying tolerance and precision
- Fabricated molds on mills and lathes using CAD and CAM tools
- Produced parts by injection molding and thermoforming, analyzing final dimensions

ACTIVITIES

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