# Ian Daniel St. Louis

ianstlouis.com • linkedin.com/in/ianstlouis

## EDUCATION

2014-Present **UNIVERSITY OF CALIFORNIA, BERKELEY**
B.S. Mechanical Engineering, *Magna Cum Laude* (GPA: 3.7/4) Dec 2018
M.S. Mechanical Engineering (GPA: 4/4) Dec 2019

## TECHNICAL SKILLS

***Software***
- MATLAB, SolidWorks, LabVIEW (CLAD certified), NX, AutoCAD

***Hands-on***
- Instron, OMM, laser-cutting, 3D printing, soldering and interface mockups for rapid prototyping

## EXPERIENCE

Summer, 2018 **MECHANICAL ENGINEERING INTERN** Cupertino, CA
Jan. 2017-Aug. 2017 ***Apple— iPhone and  Watch Displays***
- Developed an electromechanical optical fixture for 6-axis, sub-micron, programmatic alignment of a substrate.
- Drove failure analysis and designed experiments to determine the root cause for the highest risk display issues faced during iPhone 8/8+ development.
- Approved SPC data and implemented corrective actions for process deviations on iPhone 8/8+ display builds.
- Built a widely used application to drastically improve engineers' efficacy in synthesizing FAI/SPC build data.
- Directed a study to evaluate the parameter-space, effectiveness and vendor-side application of new methods to test fracture strength of OLED passivation on Series 2, 3, and next-gen  Watch displays.

Jan. 2016-Jan. 2017 **BIO-INSPIRED ROBOTICS RESEARCHER** Berkeley, CA
***CIBER LAB— Dr. Robert Full***
- Led the construction, design, programming, testing and documentation of an under-actuated robot as part of a research project to mimic the mobility and dynamic turning of lizards.
- Designed robot in SolidWorks, programmed in Arduino. Constructed using a laser-cutter and ProJet 3D printer.

Summer 2016 **ENGINEERING INTERN** San Diego, CA
***Leidos— Surveillance and Reconnaissance Division***
- Developed pseudo-data generation algorithms in MATLAB and Python as an alternative to cross-validation, to provide a robust method of determining a machine learning classification algorithm's error on new data.
- Executed spectroradiometric tests, thermal calculations and analysis, 3D modeling, FEA and presentations to iteratively design printed circuit boards for demanding military vehicular application.

Jan. 2016-Sep. 2016 **STUDENT RESEARCHER** Berkeley, CA
***Drone Application for Transit Systems— Dr. Karl Hedrick***
- Conducted a feasibility study and report with a small team, commissioned by Bay Area Rapid Transit, assessing the technological, operational and safety aspects for drone applications to their railway systems.

## PROJECTS

Jan. 2018-May. 2018 **BUILT TO TILT** Berkeley, CA
***ME 102b, Senior Capstone Project***
- Derived analytical models, wrote electromechanical component code, and drove the assembly design and fabrication for a beautifully intricate, survival-based arcade game.

Spring 2016 **1ST PLACE PRIZE | LARGE-SCALE WATER CONDENSER** Berkeley, CA
***UC Berkeley-wide $12k WaterSeer Design Competition***
- Led a team of five to the 1st place prize, driving the creation of a proof of concept design for a device which passively condenses water from the air.
- Provided the project's 3D modeling, FEA, rendering and designed the entirety of the winning turbine system.