

ELENA QUIJANO

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BACKGROUND

Versatile engineer with a depth of technical knowledge and a desire to continually expand skill set. Strong interests in machine learning, computer vision, data science, and robotics. Skilled written and verbal communicator of complex concepts to a range of audiences. Expertise includes:

- ◆ Machine Learning
- ◆ Robotics
- ◆ Medical Devices and Optics
- ◆ Deep Learning
- ◆ Control Theory
- ◆ Microcontrollers and Electronics
- ◆ Computer Vision
- ◆ Mathematical Modeling
- ◆ Computer-Aided Design

EDUCATION

Master of Science (MS) in Mechanical Engineering, Boston University — 2016

Concentration: Robotics

- ◆ Draper Fellowship — 2015
- ◆ Distinguished Mechanical Engineering Fellowship — 2014

Bachelor of Arts (BA) in Physics, Wellesley College — 2013

- ◆ Wellesley College Sigma Xi — 2013

WORK EXPERIENCE

CONTINENTAL AUTOMOTIVE— SAN JOSE, CA

Associate Systems Engineer 6/2017 – 3/2019

- ◆ Researched, implemented, and evaluated open-source neural networks in C++ and Python for object detection and classification applications. Benchmarked model performance across different Nvidia GPUs within Linux-based systems.
- ◆ Developed intelligent intersection heatmap visualization in C++ via Cinder/OpenGL
- ◆ Developed and deployed first intelligent intersection pilot. Tasks included system architecture development, component selection and procurement, benchtop setup and testing, collaboration with electrical contractors, lab management, data collection, troubleshooting
- ◆ Developed Python application for directly accessing, streaming, and recording video from a multi-stream network camera
- ◆ Developed software documentation, how-to guides, whitepapers, and invention disclosures
- ◆ Led several project presentations and demos to the department and upper management, including the executive board of Continental, a company of 230,000+ employees

BOSTON UNIVERSITY — BOSTON, MA

Graduate Research Assistant/Draper Fellow 9/2015 – 6/2016

Graduate Teaching Fellow 9/2014 – 8/2015

Wearable Control Moment Gyroscope (CMG) Array

- ◆ Spearheaded general design concept for system of wearable CMG arrays aimed at navigation and movement assistance applications
- ◆ Tested and analyzed performance of existing CMG array via MATLAB and LabVIEW
- ◆ Developed, troubleshooted, and documented test procedures

Graduate Teaching Fellow for ME359: Computer Aided Design

- ◆ Assisted students with design exercises and homework during class and office hours, graded exams

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WORK EXPERIENCE CONTINUED

DRAPER — CAMBRIDGE, MA

Intern 9/2014 – 8/2015

Miniature Pneumatic Snake Robot

- ◆ Designed, prototyped, and tested various iterations of the robot and built a solenoid manifold for pneumatic actuation
- ◆ Led design and implementation of open-loop control for a variety of snake gaits via an Arduino-based microcontroller
- ◆ Succeeded in meeting size and mobility requirements
- ◆ Awarded Draper Fellowship

WELLMAN CENTER FOR PHOTOMEDICINE, MASSACHUSETTS GENERAL HOSPITAL — BOSTON, MA

Research Technician 6/2013 – 7/2014

Research Assistant 8/2012 – 5/2013

Harvard-MIT Summer Institute in Biomedical Optics 6/2012 – 7/2012

Reusable, Swallowable Tethered Capsule Endomicroscope

- ◆ Designed, fabricated, and tested a pill-sized probe that utilizes OFDI (optical frequency domain imaging) and video imaging to diagnose Celiac disease
- ◆ Completed successful in-vivo animal and clinical studies and worked with device documentation and data processing
- ◆ Gave a talk at the 2014 SPIE Conference in San Francisco, CA

Rear-facing Camera Assembly for Endoscopes

- ◆ Led design of an add-on imaging device for endoscopes
- ◆ Prototyped device and successfully progressed to in-vivo animal studies

CERTIFICATIONS

- ◆ Machine Learning by Stanford University on Coursera — 2018
- ◆ Neural Networks and Deep Learning by deeplearning.ai on Coursera — 2019
- ◆ Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization by deeplearning.ai on Coursera — 2019
- ◆ Structuring Machine Learning Projects by deeplearning.ai on Coursera — 2019

SOFTWARE SKILLS

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|-------|----------|--------------|---------|--------------|---------|
| ◆ C++ | ◆ MATLAB | ◆ TensorFlow | ◆ Git | ◆ SolidWorks | ◆ LaTeX |
| ◆ C | ◆ Python | ◆ OpenCV | ◆ Linux | ◆ XPPAUT | |