

# Roberto Leon-Luna

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## WORK EXPERIENCE

### Viacom – Broadcast Systems Development

June 2018-August 2018

*Software Engineer Intern*

New York, NY

- Developed a 4K video encoder written in C++ that converted YUV video files into 4K video files using the x265 software library
- Tested encoder on Trident play-out system to benchmark FPS that servers achieve using various encoder presets
- Presented test results to broadcast systems team and recommended that Viacom is not in a position to implement a 4K video encoder into their play-out system

### University of Michigan – Haptix Lab

January 2016-September 2016

*Research Assistant for Ph.D. candidate Alex Russomanno*

Ann Arbor, MI

- Fabricated silicon refreshable braille displays using clean room technologies for use in testing
- Developed Arduino tool that analyzed the brightness of video clips to measure the response time of micro fluidic logic gates to air pressure fluctuations
- Optimized the response time of micro fluidic logic channels through testing with transducer and air gun

## ADDITIONAL EXPERIENCE

### Mobile App Development

January 2020-April 2020

*Augmented Reality iOS App for Art*

- Designed, built, and tested an iOS mobile application using Swift, Apple AR Kit, and Firebase that allowed users to display multiple art pieces through an augmented reality view
- Performed customer research and design iteration in order to determine the UI layout and the back-end design
- Prepared and presented several presentations throughout the semester on the progress of the mobile application, design decisions for the mobile application, and customer research

### Web Development

September 2019-December 2019

*Instagram Web App*

- Developed a clone of the Instagram web app using Flask, SQL, and React
- Used Flask and SQL to build the back-end technology such as the database, URL routes, and REST API
- Used React, HTML, and CSS to build client-side features that updated the front-end based on user input

*Information Retrieval*

- Used a Hadoop map reduce pipeline to process information and create an inverted index
- Created a search interface using React that queried results from PageRank API and displayed them to the user

## EDUCATION

### University of Michigan College of Engineering

**Class of 2020**

*BSE in Computer Science*

Ann Arbor, MI

### Universidad de Navarra @ TECNUN

May 2016-July 2016

*Micro-robotics & Spanish industries study abroad program*

San Sebastián, Spain/Pamplona, Spain

## SKILLS

### Languages:

C++, Python, JavaScript

### Frameworks:

React, Vue.js, Flask, Apple AR Kit

### Databases:

MongoDB, SQL, Firebase

## LINKS

**GitHub:** <https://github.com/bertleon>

**Personal Website:** <http://www-personal.umich.edu/~bertleon/index.html>

**LinkedIn:** <https://www.linkedin.com/in/roberto-leon-luna-707953104/>