

Roberto Leon-Luna

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EDUCATION

University of Michigan, College of Engineering
BSE in Computer Science

Expected Graduation: April 2020
Ann Arbor, MI

Universidad de Navarra @ TECNUN
Micro-robotics & Spanish industries study abroad program

May 2016-July 2016
San Sebastián, Spain/Pamplona, Spain

Languages: C++, Python, JavaScript

Frameworks: React, Vue.js, Flask, Apple AR Kit

Databases: MongoDB, SQL, Firebase

WORK EXPERIENCE

Viacom – Broadcast Systems Development
Software Engineer Intern

June 2018-August 2018
New York, NY

- Developed a H265 video encoder written in C++ that converted YUV input files into H265 output 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 on FPS to panel of executives and recommended that Viacom is not in a position to implement an H265 encoder into their play-out system

University of Michigan – HaptiX Lab
Research Assistant for Ph.D. candidate Alex Russomanno

January 2016-September 2016
Ann Arbor, MI

- Fabricated silicon refreshable braille displays using clean room technologies for use in testing
- Developed C++ 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 by 25% through testing with transducer and air gun

ACADEMIC EXPERIENCE

Mobile App Development for Entrepreneurs
Augmented Reality App for Art

January 2020-April 2020

- 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 Systems
Instagram Web App

September 2019-December 2019

- 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 to build client-side features that updated the front-end based on user input
- Wrote bash scripts to automate initialization of web application

Map Reduce

- Created a map reduce implementation using Python's processes, threads, and sockets libraries

Information Retrieval

- Used a Hadoop map reduce pipeline to process information and create an inverted index
- Implemented PageRank algorithm and created an API for it so that search interface could query and display results
- Created a search interface using React that queried results from PageRank algorithm and displayed them to the user