Esteban Roberts

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EDUCATION

University of Illinois at Urbana-Champaign   **August 2017 - May 2021**
B.S. in Computer Engineering

SKILLS

- Strong in C++ and Python
- Proficiency in C, Git, Arduino Environment, and Javascript
- Experience using CMake, Assembly Language, HTML, Java, CSS, System Verilog, CUDA, WGSL, and Vim

PROJECTS

Asynchronous Web Server
- Developed an asynchronous Web server using an ESP32-S2 microcontroller to monitor the health of a plant in real time using various sensors all encapsulated into a single device.
- Implemented front end of Web server to allow user input for sensor bounds.
- Used ESP32-S2 to connect to Wifi while sending and receiving information to sensors and the Web server.
- Modified Arduino IDE to allow it to be compatible with the unsupported ESP32-S2.

Linux Based Operating System
- Implemented a Linux based operating system using C++ and x86 assembly language.
- The operating system consisted of a command line interpreter that supported context switching, paging, keyboard inputs, and simple file system.
- Worked in a four student team in order to effectively manage the workload.

Naive Bayes Algorithm
- Used the Naive Bayes algorithm to train a classifier to know good movie reviews from bad ones.
- Took 8,000 training examples, marked either positive or negative to then classify an additional 5,000 developmental examples between bad and good reviews.

Photo Mosaic
- Implemented a photo mosaic in C++ using a nearest neighbor search algorithm and K-D trees to create a picture by sorting smaller pictures by color.

RELEVANT COURSEWORK

- Data Structures
- Computer Systems Engineering
- Artificial Intelligence
- Interactive Computer Graphics
- Applied parallel programming

ADDITIONAL SKILLS

- Native Spanish and English speaker