

BAILEY G. HERMS

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EDUCATION

Master of Science in Computer Science

June 2018

University of California Riverside, GPA: 3.77

Bachelor of Science in Computer Engineering

June 2017

University of California Riverside, GPA: 3.4

SKILLS

TECHNICAL

Languages (Strong): C/C++, Python, HTML, Java

Languages (Familiar): JavaScript, SQL, Assembly, XSLT, CSS, PHP

Software: Git/GitHub, Markdown, LaTeX, Vim, XCode, Visual Studio, Atmel Studio, Eclipse, Hadoop, Verilog, PSpice, FreeRTOS

Operating Systems: Linux Ubuntu/Mint, Windows Vista/7/8/10, OS X

OTHER

Soft Skills: Verbal communication, positive attitude, strong writer, team player, leadership experience (UCR Orientation Leader and Graduate Student Association Computer Science Officer)

EXPERIENCE

Research Assistant

December 2015 - Present

UC Riverside, California

- Created and evaluated C/C++ questions in a five-person team constructing a test bank for Introductory Computer Science midterms and finals.
- Developed a game in Python, using Pygame, to assist students in learning algebraic intervals.
- Researched machine learning and applied that research to my embedded systems pattern recognition project (under "Projects").

Intern

June 2016 - September 2017

zyBooks, Riverside, California

- Using Python, implemented a data mining script that parsed through student responses and submissions to find out where in the online textbooks students were struggling and why.
- Worked in a team of three brainstorming ideas on how to optimize the interactive textbook user experience and presented these findings to management.
- Developed an XSLT script to convert XML files to HTML files for textbook conversion.
- Created more precise search engine results for the zyBooks site by using CSS to convert dynamic web pages into static web pages.

PROJECTS

Master's Research Project – Pattern Recognition System (Ongoing) - github.com/baileyherms/Pattern-Recognition

- Implement an embedded systems project using the Arduino Mega to differentiate types of boxes, fruits, and cups through the process of pattern recognition.
- Design a program that uses machine learning, specifically the k-nearest neighbors algorithm, to compare the objects being tested with the training data.
- Build a vending machine vandalism system that uses an accelerometer and measures the changes in the x, y, and z axes to detect whether a vending machine is being vandalized or simply dispensing products normally.

Graduate Class Group Project – Yelp Data Mining Program - github.com/baileyherms/yelp_dm

- Worked in a team of three to develop a program that extracted relevant data from Yelp reviews and Google Trends and analyzed them using frequency text mining.
- Developed Python scripts which implemented various data mining techniques used to examine the extracted data, such as normalization, dynamic time warping, and text representation.

Senior Project – While Loop Simulator - github.com/baileyherms/Senior-Project

- Constructed an interactive exhibit that assists Introductory Computer Science students in understanding how while loops are implemented.
- Interfaced an Arduino with a Raspberry Pi to create reading, visual, and auditory aids to enable students with different learning styles to easily understand the concept of while loops.
- Utilized distance and motion sensors to extract data from the user allowing them to advance through the exhibit.