

James Asbury

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Education

CALIFORNIA POLYTECHNIC STATE UNIVERSITY, San Luis Obispo
Bachelor of Science, Computer Science — Expected Graduation: June 2020
Major GPA: 3.69 Cumulative GPA: 3.61

Work Experience

- NORTHROP GRUMMAN** — June - September 2019
Software Technical College Intern
- Software design, programming, and testing for Advanced EHF Satellite program
 - Added critical debug info to a huge C++ satellite message validation code base (900KSLOC)
 - Enhanced a Java GUI to display real-time error info for correcting the rejected simulated satellite uplink messages, and verified code changes through unit and integration testing
- COMPUTER SCIENCE TUTORING** — March 2019 - Present
Cal Poly CSC Department Tutor
- Department tutor in assisting dozens of students a night during drop-in sessions
 - Working to help in debugging and code writing, project planning, and general knowledge help in Java, Python, and C
- KEYSIGHT TECHNOLOGIES** — June - September 2018
Software & Software Marketing Engineering Intern
- Wrote and tested code for a plugin that brings powerful automated testing to radio designers
 - Worked to strategize, plan, and promote the launch of software projects using modern marketing techniques such as lead gen and awareness building through technical white-papers
- BOETTCHER LABORATORIES, UNIVERSITY OF OREGON** — June - September 2015
Center for Sustainable Materials Chemistry Research Assistant
- Gathered info and preliminary data for contribution to a published research paper
 - Managed data and research for a lab experiment as part of Oxygen Evolution Reaction Project for eco-friendly energy creation

Projects

- C SHELL** — C
- Created a Unix Shell program to execute commands and arguments as well as
 - Asynchronous execution of multiple commands and arguments through pipelines
 - Supported file redirection for input and output
- /DEV/SECRET DEVICE DRIVER** — C
- Device driver build for the MINIX-3 (Mini Unix) Operating System to hold a secret message
 - Message can only be read once and only by the owner. `ioctl` call for transferring ownership
 - Integration with the MINIX-3 message passing system for interprocess communication
- CHINESE CHECKERS** — Java
- Built a multi-threaded game with a GUI for a variable number of manual players or robots
 - Monte Carlo algorithm for robot logic using an advanced heuristic and BFS board analysis
 - Game state memory for an unlimited move undo-ing
- LZW COMPRESSION PROGRAM** — C
- Completed an LZW compression program that can handle both text and binary files
 - Trie data structure used to maximize runtime and greatly save on space complexity
 - Bit-packing algorithm written to efficiently write the compressed output

Organization Involvement

- SLOHACKS HACKATHON FINALIST 2019**
- Top 5 finalists out of 300+ participants. Invited to present our project in front of judges and the hackathon audience
 - Help users reduce food waste with a React Native app and modern computer vision technology to identify food in your fridge and generate recipes that can be made
- CONSUMER ELECTRONICS SOCIETY**
General Officer — 2018 - Present
- PROFESSIONAL ENGINEERING FRATERNITY**— Sigma Phi Delta
Secretary — 2017 - 2018
Webmaster — 2017 - 2018

Languages

-  **Java**
Object Oriented Design
Swing and AWT
-  **C**
Systems programming in Unix
Operating Systems
-  **C++**
Object Oriented Design
-  **Python**
-  **C Sharp**
.Net platform experience
-  **Javascript**
Typescript
Vue.js framework
React/React Native framework
-  **Assembly**
ARM Assembly experience

Skills

- GITHUB**
- Version and branch control
 - Managing large project repositories
- AGILE DEVELOPEMENT**
- Scrum

Relevant Coursework

- Data Structures
- Object Oriented Design
- Systems Programming & Unix Dev.
- Computer Architecture & ARM
- Algorithms
- Operating Systems

Publications

- GOT PYTHON? UNLOCK THE FUTURE OF TEST AUTOMATION QUICKLY**
- <http://literature.cdn.keysight.com/litweb/pdf/5992-3449EN.pdf>
- USING SIMULATION TO OVER-COME 3 MILLIMETER WAVE DESIGN CHALLENGES**
- <http://literature.cdn.keysight.com/litweb/pdf/5992-3287EN.pdf>
- TERNARY Ni Co-Fe OXYHYROXIDE OXYGEN EVOLUTION CATALYSTS: INTRINSIC ACTIVITY TRENDS, ELECTRICAL CONDUCTIVITY, AND ELECTRONIC BAND STRUCTURE**
- Nano Research Journal