Billy Sudirdja

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Work History

Certified Repair Technician, uBreakiFix by Asurion. Sep 2022 - Present

* Diagnose and troubleshoot 30 devices a day to determine the cause of electronic failures or performance issues.
* Perform repairs, replacements, and maintenance tasks on damaged components for a 85% success rate.
* Calibrate device firmware with certifications from Samsung (GSPN), Google(GDFP) and Apple(AST-2) to ensure equipment meets manufacturers performance and safety standards.

Intern, Stanford Linear Accelerator Center. Jun 2019 - Aug 2020

* Develop scripts optimizing automation for mechanical instrumentation using algorithms in Java and Python increase speed by 10%.
* Design and develop STL files for gas equipment with AutoCAD.
* Engineer in Ignition to display power distributions of the particle accelerator to a network of 50 programmable logic controllers (PLC).
* Blueprint and install oxygen deficiency monitors (ODM) made with copper tubing and compressed air.

Peer Instructor, Skyline College. Jan 2019 - Apr 2020

* Facilitate discussion sections 2-3 times a week for students to work on problem solving skills in Calculus 1,2,3 and Pre-Calculus.
* Participate in class sessions to motivate students to think critically and become independent learners.
* Create lesson plans for troubled students that effectively address their academic needs.

Projects

Agile Development Project

* Plan and construct a new web application using Javascript, CSS, HTML, and ElectronJS.
* Collaborate with 10 people for a continuous integration/development (CI/CD) pipeline.
* Maintain version control of the program using tools such as Git and Github.
* Automated documentation using JSDocs for 60 functions and manually improve grammatical errors for clarity.

Huffman Compression/Decompression Tool

* Design and program a Huffman compression and decompression tool in C++.
* Construct a Huffman tree using a bit-wise buffer and tree serialization leading to a 70% decrease in file size.
* Optimize and profile runtime using GNU Profiler (gprof) leading to a 10% decrease in overall runtime.

SHA-256 and Blockchain Project

* Implement SHA-256 hashing algorithm using System Verilog in a Finite State Machine (FSM).
* Optimize algorithm by 25% using word expansion, buffer initialization, and parallel processing.
* Automate testing using Quartus and performed verification and validation using ModelSim.
* Repurpose SHA-256 algorithm to find balance of area and speed to find nonce values and create a block-chain that is irreversible.

Education

Bachelors of Science, University of California San Diego. Major in Computer Engineering with a Minor in Mathematics.

Associates for Transfer, Skyline College. Major in Computer Science, Physics, and Mathematics.