

# Billy J. Louis III

**OBJECTIVE:** To obtain a position in the field of Computer Engineering or a related discipline, leveraging extensive experience in hardware and software development, embedded systems, digital transformation and Logistics Management.

## SKILLS:

**Languages:** Golang, C, C++, C#, WPF, Bash, Objective-C, Verilog/VHDL, HTML/CSS

**Cloud & Security:** Azure SSO/SAML/MSAL, Graph API, TLS/mTLS, PKI & PKCS#11

**Embedded & Firmware:** FPGA, Raspberry Pi, Arduino, Yocto BSD Build(ARM & x86), U-Boot, Secure-Boot, SPI, I2C, RS232, RS485, CANBUS.

**Networking & IoT:** REST APIs, IoT/IoT, ZigBee, DNSmasq, SSH, Linux Networking

**DevOps:** GitHub Actions, Docker, CI/CD, Systemd Service, Linux Administration, Tripwire IDS

**Hardware & Electronics:** PCB Design (Altium), Soldering (SMT & Thru-Hole), RF/mmWave basics, sensors/servo/LED, Wire Harness, SPICE & oscilloscope

**Databases:** MySQL

**Tools & Software:** SolidWorks, Bluebeam, Postman, CADENCE Virtuoso

## RELATED EXPERIENCE

Hardware Engineer (8/2022 to Present)

*Sands Digital Service – Sands Corp, NV*

- Golang backend & Front-End Integration of RFID-based Dealer Login system with Microsoft Azure (SSO | SAML | MSAL & Graph API and MySQL).
- Develop NDI Camera Health Monitoring System with swap and switch features for Broadcast Studio (Golang & C/C++)
- Creation of custom Image Builds for ARM (Apalis IMX8) and x86 platforms using Yocto BSP, Bash, and C/C++.
- Creation of custom TFTP Net-boot Server & Custom HTTPS Server with mutual TLS (Golang).
- Engineered a secure USB POD-KEY system embedding binary authorization data to control U-Boot-based OS image booting on ARM platforms. Implementation of System Lock Down using ATECC608A Cryptography chip to authenticate and authorize Net-booting of ARM64 machines (Bash, C Arduino & Golang).
- Linux administration & Router: firewall configuration (iptables & UFW), SSH, DNSmasq, intrusion detection using Tripwire, and automation scripting & systemd-service (bash). Syslog and Netcat log message reporting and analysis (Golang & Bash).
- Embedded system design for sensor-based card shuffler storage & SHOE (color detection, servo, LED).
- Excellent R&D leadership for hardware & software integration and prototype deployment.

## **Billy J. Louis III**

**Chief Technology Officer (CTO) (2/2022 to Present)**

***LOUIS ENGINEERING CONSULTANT, NV***

- Joint Venture in the development of software & hardware prototype.
- Excellent managerial and financial budget balance.
- Certification: Machine Learning (Support Vector Machine - SVM), Cryptography, RF & mmWave Circuit Design.

**Electronics Engineer (4/2021 to 2/2022)**

***OUTBOX TEK, NV***

- XAML & C# based standalone desktop API client to retrieve data from metering systems using HTTP requests. Customer water bill E-verified.
- Altium PCB Board Development & Verification. 4DSystems Hardware development (gate opener for heavy duty truck).

**Software Solutions Engineer (11/2020 to 4/2021)**

***SBT\_Alliance Rocklin, CA***

- iOS App Development (Objective-C), CSS & HTML5. Developing and troubleshooting UX & UI. API and IOT Development.
- Responsible for end-to-end software and hardware development starting from analysis to design, implementation, QA, delivery, and maintenance.
- Meet with Customers to list steps to implement digital transformation. Serve as mentor to junior team members.
- Develops application prototypes, products documentation and conducts conference room pilots to evaluate solution options upon customer's request.
- R&D in Artificial Intelligent (AI), Blockchain, Machine learning, IOT and Industrial Internet of things (IIOT).

## **Billy J. Louis III**

Control Systems Engineer  
*SBT Alliance Las Vegas, NV*

(10/2018 to 11/2020)

- Proficient in Bluebeam, Floorplan Design, SolidWorks, Postman.
- Control and Network System development with ZigBee, i2C & SPI, RS232 & RS485, BACnet Protocol and Microcontroller Programming.
- Proficient in GoogleScript, Asp.Net MVC & DirectX 12, Embedded QT Creator.
- Advance knowledge developing and troubleshooting UX & UI. RESTful API and IOT Development. Experience in HVAC and Building Automation.
- Installation and configuration of Wireless devices such as Lighting Control System, Thermostat, Duct Sensor, Photocell, Wireless Area Controller (WAC), Wireless Adapter Power Monitor (WAPM) & Power Meter Controller. Circuit Breaker Panel and wiring.

Autonomous Vehicle Operator/Tester (08/2018 to 11/2018)  
*APTI/V Las Vegas, NV*

- Operate in-vehicle data recording computers, data marking and minor debugging when issues arise.
- Troubleshooting computer systems in the vehicle and report issues to supervisor.
- Operate prototype-level Autonomous on both defined and undefined routes including a variety of geographic and environmental conditions.

Autonomous Vehicle Test Driver/Engineer (03/2018 to 08/2018)  
*EPITEC Southfield, MI*

- Operate in-vehicle data recording computers, data marking and minor debugging when issues arise. Troubleshooting computer systems in the vehicle, CANBUS.
- Operate prototype-level Autonomous on both defined and undefined routes including a variety of geographic and environmental conditions.

## Billy J. Louis III

Software Engineer intern (06/2017 to 09/2017)  
*309<sup>th</sup> SMXG Software maintenance Hill AFB, UT*

- Transposed Visual Basic legacy codebases into **C++** for improved performance.
- Developed and designed new software for flawless pilot experience
- Increased code efficiency of Fighter Aircraft Simulator
- Introduced new solutions to Heads up Display (HUD) to cut pilot efforts.
- Troubleshooting of military electronics boards and components with associated test equipment. PCB Design.
- Introduced new solutions to Heads up Display (HUD) to cut pilot efforts.
- Worked in Linux and VM environments for simulation testing.

Computer Engineer student (08/2012 to 08/2017)  
*University of Nevada Las Vegas - UNLV*

- BSEG in Computer Engineering at the University of Nevada-Las Vegas (UNLV).
- Alumnus at University of Nevada Las Vegas - UNLV
- Logic and Digital System Design. Microprocessors (FPGA), Microcontroller & Embedded System. System Verification using test benches. Automatic Test Pattern Generation (ATPG) and VLSI.
- Proficient in Programing languages such as VHDL, C/C++, HTML & CSS, VERILOG/System Verilog. Software Debugging and Data Compression techniques.
- Circuit Design using both Passive and Active Elements. Design of Discrete and Integrated circuit technology, A/D-D/A Circuit, Comparators, Schmitt Triggers. CMOS Design and Layout using CADENCE Virtuoso. Schematic Capture using EAGLE CAD.
- Conducted Performance Test on Electronic Hardware Designs using equipment such as Oscilloscope and SPICE Tools. Micro & Surface Mount Soldering.
- PV module, DC-AC inverters, battery energy storage & charge controllers design.
- Computation of statistical database using Excel and other software tools. Statistics database programming. Collaborated with other Engineers to design and create new Hardware. Documented test results and presented analysis to Management Team (MT).

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## **ADDITIONAL EXPERIENCE**

## Supply Technician

(02/2008 to 12/2014)

*US Army 618<sup>th</sup> Eng. Comp. Fort Bragg, NC*

- Recipient of three Army Achievement Medal (AAM), where one is attributed to the Effort made to be the best Logistics Personnel among others in the entire battalion during a tour in Afghanistan.
  - Managed and inventoried highly sensitive equipment valued up to \$ 140M in a time frame of 4 years. Multitasking skills and bilingual.
  - Shipment Management & Financial Reports Recording. Processed over 100 shipments of personal property and military goods both domestically and overseas. Conducting good accountability of equipment in hands and maintaining monthly reports on stocks and requisitions.
  - Knowledge training and practical experience with computerized data bases to track, order, issue and turn-in supplies and shipments. Filing and labeling in orderly manners the receipts of turn-in, issuing and receiving items from suppliers.
  - Ordering equipment needed by the Company to eliminate all excess items for the benefit and growth of the company. Operating vehicles to pick up items and stock them in secured areas.
  - Certified as a fire safety marshal to conduct drills in case of a fire emergency, to inspect building and to detect fire hazards.
  - Operating vehicles over 5000lbs, as of Skid Steer Bobcat, LMTV (Light Medium Tactical Vehicle) and LMTVT (Light Medium Tactical Vehicle Trailer).

## EDUCATION

- University Of Nevada Las Vegas (UNLV) Bachelor of Science in Computer Engineering 08/2012 – 08/2017
  - U.S Army Specialized Training: 02/2008 – 12/2009  
Unit Supply Specialist, Arms' Rooms inventory and maintenance, Field-Based Cross-Training Programs (FBCT), Battle Command Sustainment Support System (BCS3), Fire Safety Marshal, Heavy vehicles operator, Sky Diving (Paratrooper).

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### RELEVANT COURSES TAKEN

- EE 220 & EE 221/L: Circuits I & II
- EE 320/L: Engineering Electronics.
- EE421/L: Digital IC Design.
- EE 446: Photovoltaic Devices and Systems.
- EE 497: Capstone Project 1
- EE 498: Capstone Project 2
- EGG 307: Engineering Economics
- CS 135/L: Computer Science 1
- CS 202: Computer Science 2 (Object Oriented Design).
- CS 302: Data Structures and Algorithm.
- CPE 100/L: Computer Logic Design I
- CPE 200/L: Computer Logic Design II
- CPE 300/L: Computer System Architecture I.
- CPE 301/L: Embedded System I.
- CPE 302: Digital System Design.
- CPE 403: Advanced Embedded System.
- CPE 404: Modern Processor Design & System Architecture II.
- CPE 405: Coding & Data Compression System
- CPE 408: VLSI Physical Design - EDA, Verification and Testing.
- MATH 431: Mathematics for Engineers and Scientists.

### SCHOOL PROJECTS

- Off grid solar panel installation (6,000 Watts System)
- Capstone project I and II
- Automatic Cups Filling-&-Stopping juice dispenser.
- Design of Waveform Generator 25 Hz to 3 MHz. AC input & Dual-Output DC Power Supply (5 volts Digital & 12 volts Analog outputs).
- Slot Machine Design using FSM and Clock Dividers. Arithmetic Logic Unit for a 16-bit Microprocessor.
- Chip Design: Buck Converter with various input voltage from 4.5V to 5.5V and a steady output voltage of 3.75 V with 100mA current.
- Chip Design: 31 stage ring oscillator with a buffer for driving a 20 pF off-chip load, NAND and NOR gates using 6/0.6 NMOSs and PMOSs, An inverter made with a 6/0.6 NMOS and a 12/0.6 PMOS, 6u/0.6u PMOS and NMOS devices, Voltage divider implemented with 10k resistors using nwell and high resistance poly2.

## **Billy J. Louis III**

### **Awards**

2008	Army Service Ribbon (ASR) (1) --
2009	National Defense Service Medal (NDSM) (1) --
2010	Parachute Badge (PRCHTBAD) (1) --
2009	Overseas Service Ribbon (OSR) (1) --
2010	Army Achievement Medal (AAM) (3) --
2010	Army Good Conduct Medal (AGCM) (1) --
2010	Afghanistan Campaign Medal - CS (ACM-CS) (1) --
2010	NATO Medal (NATOMDL) (1) --
2010	Global War on Terrorism Service Medal (GWTSM) (1).