

# Stephen W. Shaffer

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## WORK EXPERIENCE

- PRINCIPAL ELECTRICAL ENGINEER LEAD • Aristocrat Technologies Inc** **2021-Current**
- SR. ELECTRICAL ENGINEER LEAD • Aristocrat Technologies Inc** **2018-2021**
- Lead EE for newly created Advanced R&D team to speed integration of new technology into the roadmap
  - Work with product team and key stakeholders on new IP and industrial design guidance
  - Working on new PCBs, robotics, blockchain, displays, and other new technology research efforts
  - Hands-on R&D of new ideas from sketch to MVP
- LEAD ELECTRICAL ENGINEER • Aristocrat Technologies Inc** **2016-2018**
- Lead electrical engineer for new product team
  - Spearheaded improved PCB Design for harsh environments
  - Redesign all verification and validation procedures to match evolving industry standards
  - Manage vendors and 3-5 engineers per project
  - Manage UL, CE, EMC, and FCC testing and noncompliance issues
- ELECTRICAL & COMPUTER ENGINEER • BBG Inc** **2014-2016**
- Led PCB design & review, PCBA setup & improvements, and QA process creation
  - Create test & production jigs for V&V
  - Implemented Git issue tracking to improve analytics and combine SW/HW into one platform
  - Setup process for creating and testing blast resistant enclosures with electronics integration
  - Architected first recurring revenue HMI SW product
  - Set up first industrial MCU based RTOS product with ethernet
  - Mitigated incoming EOL issues with system redesigns for military product line
  - Perform CI/CD while adding new features to the HMI and firmware as requested
  - Researched and developed mass producible sticky GPS bullets for Star Chase
  - Sensor selection and testing
- ELECTRICAL ENGINEER • Zenman Energy Non-profit** **2012-2014**
- Designed and performed field testing of sun-tracking concentrated solar power array
  - Setup formal process for power factor corrections
  - Researched and tested alternative low pressure power capture devices such as tesla turbines
- ELECTRICAL ENGINEER • North Street Labs LLC** **2010-2014**
- Created in-house PCB design & assembly process
  - Designed several interactive museum replacement parts to reduce wear & tear
  - Built custom light displays for music venues & DJ
  - On boarded CNC machine and 3D printers to reduce costs with in-house manufacturing

## SKILLS

### Platforms

- Windows 7, 8, & 10, Linux, Ubuntu, Android, FreeRTOS, ROS

### Tools

- Unity, Visual Studio, Atmel Studio, MPLab X, MatLab, MathCAD, Arduino IDE, ISP Lever Classic, Quartus, Eclipse, Wireshark, SolidWorks, AutoCAD, LinuxCNC, Altium, Eagle, KiCAD, Tracealyzer, Git, Oscilloscopes, Logic Analyzers, Spectrum Analyzers, Environmental Chambers, IR Cameras

### Programming

- C, C++, C#, Python, .NET, Verilog, VHDL, Basic, Assembly, G-code, Solidity, JavaScript, VB.NET, Bash/Shell

### Networking & Communication

- LWIP; UDP; TCP/IP; Sockets; Multicast, UART, SPI, I<sup>2</sup>C, CAN, RS-485, RS-422, RS-232, LVDS

### Hardware

- Harnesses, 3D Printing, Machining, Pick-and-Place, Sensor Calibration, Solenoids, Stepper Motors, HVDC Motors, Raspberry Pi, Arduino, ARM, ESP8266, ESP32, XBEE, Nrf24L, BLE, Antenna design

## EDUCATION

### Old Dominion University, Norfolk, VA, USA

Bachelor of Science in Electrical and Computer Engineering

2014