Amar Persaud

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EDUCATION

Stony Brook University, New York, NY **2018 - 2023**

Bachelor of Engineering in Electrical Engineering

Relevant Courses: Advanced Programming and Data Structures, Embedded Microcontroller Systems Design, Deterministic and Random Signals and Systems, Modern Circuit Board Design and Prototyping, Computer Vision

EXPERIENCE

Production Test Engineer at North Atlantic Industries (NAII) **May 2023 – Current**

- Wrote firmware and made hardware design changes for upgrading high density modular VPX rack mounted power supplies and retrofitting existing devices
- Implemented a two-phase 5V, 80A buck converter with current mode control using a DSP microcontroller
- Assembled, calibrated, and tested power supply units with Automated Test Equipment (ATE)
- Designed and fabricated test fixtures and harnesses, and wrote tests for ATE
- Resolved and documented production, assembly, automated test, and RMA issues

PROJECTS

Senior Design Project - High Current Multi-Phase Buck Converter **September 2022 – May 2023**

- Led circuit analysis, schematic design, and performed PCB layout and assembly
- Collaborated with others to design and fabricate a high current, low-cost, 4-phase buck converter, with a 90% efficiency, 5-12V input, and with a 75W/75A and 1V output.

Portable Eurorack Compatible Synthesizer with Voice Cards - *Fusion 360* **November 2022**

- Designed and fabricated 5 interconnecting PCBs using surface mount components
- Assembled a Lithium-Ion based power supply with ±12V and ±5V output and USB-PD charging

Machine Learning Face Autoencoder - *Python, TensorFlow* **November 2021**

- Constructed and trained a TensorFlow based autoencoder neural network model for computer compressing images of faces into a latent space and generating images of faces from the NIST Celeb A dataset

Electronic Braille Display Module - *Fusion 360* **September – December 2020**

- Developed an affordable electromagnetic braille display module for the visually impaired using latching solenoids as opposed to more expensive piezoelectric elements, with integrated H-bridge drivers
- Lowered estimated cost of display modules from roughly $60 per character to about $10 per character.

N-Body Simulation - *C#, OpenCL, OpenGL* **August 2017**

- Wrote a particle simulation with gravity based on the Verlet integrator, utilizing the Barnes-Hut quad-tree optimization algorithm.
- Utilized open-source technologies for parallel graphical and computational acceleration (OpenGL, OpenCL)

TECHNICAL SKILLS

Software:

- Windows, Linux (Ubuntu), Visual Studio, Fusion 360, OrCAD PSpice, LTSpice, MATLAB, Microchip (Atmel) Studio, Git, SIEMENS PADS, Code Composer Studio, CVI

Programming and Markup Languages:

- C (Desktop and Embedded Firmware), C#, C++, Python, AVR Assembly, Java, LaTeX, HTML, CSS, JavaScript, PHP

Hardware:

- Oscilloscopes, Logic Analyzers, Bench Power Supplies, Multimeters, Function Generators, Electronic loads
- AVR, PIC, TI, and STM microcontrollers, DSP
- Soldering (SMT and THT), PCB and schematic design, wiring harnesses, troubleshooting,