Resume

Daniel Joel Drake

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1 Contact

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2 Education

- Bachelors Degree from UAH.
  - Major in Mathematics.
  - Minor in Computer Science.
  - Graduated December 6, 2018
- Associates Degree from Calhoun Comunitiy Collage
  - Major in Mathematics
  - Graduated May 27, 2016

3 Previous Employment

Quantum Information Extraction
Time: January 1st 2019 - March 27th 2020
Position: Electronics Engineer
Contact:

- Dr. Anthony Hester - ahester@qieinc.com - 256-684-0988
- Dr. Charles Hester - chester@qieinc.com - 256-651-3619
- Ricky Hammon - rhammon@qieinc.com - 256-476-5171

Previous non-technical work available on request.

4 Skills

- **Graphics, Networking, and Camera Programming**
  - Blender, Unity with deployment to the Oculus Quest
    - Precision models developed for 3D printing with application to prototyping and virtual reality environments.
    - Two unity games developed. One as a traditional 3D game. One as a VR game.
  - C++ based OpenGL and GTK graphical user interfaces, game design, and machine learning interfaces
  - Highspeed image and video processing design utilizing Arrayfire.
    - Real time - Fourier analysis based microscopic interferometric frequency detection applied to MEMS testing
  - Video for linux 2 and UVC application designs
- **Network Programming and Design**
  - TCP, UDP, SQL, UART, SPI, I2C, and JESD204B implementations with application to multiplayer games, general purpose networking including data management, and board to board communications
- **FPGA design**
  - Xilinx development using Vivado and ISE on the Virtex 7 written in Verilog
  - High speed ADC control implementation
  - High speed SFP networking control
- **Custom Electronics designs**
  - 10 Gb/s hardware design of optical - electrical media converter devices(SFP/SFP+ based Fiber, freespace, and ethernet interfaces)
  - High voltage arbitrary function generation to control a fast steering mirrors
  - Use and automation of Kicad and Eagle
- **High speed optical systems**
  - Microscopic interfrometric system design
  - Free space digital network design
- **Security Systems Design**
  - Real time intrusion detection based on Information theory and Algebraic Topological theory.
  - NIST 800-171 compliant system design
- **Miscellaneous**
  - Arduino and Raspberry Pi(2,3,4) programming as microcontrollers and RTOS
  - Full stack website development
  - Esoteric language experience
  - Number theory and Calculus numerical approximation systems
  - Operating system proficiancy: Linux(Arch, Manjaro, Debian, Raspbian, Ubuntu, Fedora), Mac, and Windows