Ethan Russell

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SUMMARY

Creative, self-motivated, and passionate engineer driven to solve problems and create novel new ideas.

EDUCATION

University of Puget Sound
B.S. in Computer Science
Graduated May 2017 | Tacoma, WA

SKILLS

- Software Development (Embedded: C, C++, Desktop: Qt, .Net)
- PCB design and layout (Altium Designer)
- STM32 Ecosystem (Cube, TouchGFX)
- Power Electronics Design and Controls
- Electromechanical System Design
- CAD design and manufacturing (Autodesk Inventor)

ABOUT

My work specializes in embedded systems, but I enjoy the breadth of skills involved with creating something from scratch: CNC machining, computer graphics, metal fabrication. See my website for a portfolio of personal projects.

CHAPMAN LEONARD | Firmware/EE/Systems Consultant

Dec. 2023 - Present | North Hollywood, CA

- Responsible for systems design, power-electronics design, high reliability real-time firmware, UI firmware, and systems integration for an 8000lb hydraulic/electric studio video-production crane base to run IMU-based hydraulic post-stabilization, servo drive for repeated movements, and wireless console for user control.
- Designed PCBAs, created firmware/bootloader suite, and produced a small production run of a camera-head "Mini-Console" with touch screen interface created using ST TouchGFX. Created a series of user-interface devices and associated electronics and firmware to interface with the Mini-Console.
- Coordinated a small team of mechanical engineers for electro-mechanical upgrades to existing bases.

FREEFLY SYSTEMS | Robotics Engineer

July 2017 - June 2022 | Woodinville, WA

- Involved in system design, electrical design, and software development of medium-volume prosumer products:
- *Industrial Gimbal Payloads*: Owned the system + electrical + firmware development, system validation, production and calibration processes, PX4 aircraft software, and gimbal control system performance.
- *Astro*, a drone aimed at industrial applications: Electrical design and PCB layout, and application/bootloader firmware development/validation of a high reliability field-oriented brushless motor drive.
- *MoVI Pro/Carbon*: Owned firmware development of Freefly's cinema-grade gimbals and controllers including a major software revamp that introduced many new features for existing customers. For high-volume products, developed factory bringup fixtures and systems.
  - *MoVI Pro*: Freefly won a technical achievement Oscar award.
- *Alta X*: Developed motor/drive failure detection solutions as rapid response to recall.

UNIVERSITY OF PUGET SOUND | Science Support Engineer

Sept. 2013 - May 2017 | Tacoma, WA

- Supported the sciences at UPS by designing and maintaining research equipment
- Projects include:
  - *String winder:* designed, fabricated, and programmed a computer controlled guitar string lathe and supporting equipment/software for a research project. Co-authored paper with findings.
  - *Nitrogen Generator:* designed, fabricated, and programmed a computer controlled pressure-swing-absorption system for replacing nitrogen dewars in the UPS Chemistry department
  - *CNC Plasma Cutter:* built a CNC plasma cutter for use in the machine shop

MISC. Before 2013

- *Digiwest* - Engineer/Tech - Designed and prototyped a version of the BlueMAC product for use in NEMA TS2 cabinets
- *Routeware* - Special Product Engineering Consultant - Developed high volume hardware for garbage truck computer systems.
- *Mentor Graphics* - Software Development Intern - Used SystemVision to create FIRST robotics simulation software.
- *FIRST Robotics Technical Mentor* - Mentored High School students in FIRST Robotics.