PALMER HUTT

Remote (U.S. Permanent Resident) | +1 (562) 230-6862 | p.hutt96@gmail.com | LinkedIn | Portfolio

Embedded Systems Engineering | Customer-Facing Technical Support | Systems Integration & Validation

Accomplished Systems Engineer with extensive experience in systems integration, implementation engineering, and operational support. Adept at leading large-scale projects, translating complex requirements into actionable implementations, and ensuring seamless system deployment. Holds Bachelor's degree in Electrical Engineering with expertise in technical execution, embedded systems, and delivering customer-facing solutions. Committed to coordinating cross-functional teams, providing high-impact technical expertise, and meeting diverse client needs. Well-versed in delivering hardware and firmware solutions for energy, lighting, and custom electronics. Known for driving adoption, process standardization, and high-quality execution in remote environments.

CORE COMPETENCIES

Systems Implementation Excellence | Hardware Debugging & Validation | Electrical System Design | System Validation & Acceptance Testing | Risk Mitigation & Milestone Planning | Stakeholder Communication | MATLAB & System Modeling | Supplier & Vendor Coordination | Remote Project Delivery | Technical Troubleshooting | Sales Engineering Support

PROFESSIONAL EXPERIENCE

EnergyPal - Remote **May 2023 – Present**
Technical Implementation Consultant

Direct cross-functional teams of engineers, installers, and permitting specialists, driving on-time, on-budget project execution through structured workflows and milestone-based accountability frameworks. Enhance client satisfaction and adoption rates by translating site constraints and energy requirements into actionable deployment plans as strategic technical advisor.

- **Project Management & Strategy**: Spearheaded end-to-end technical deployment strategies for residential solar and energy storage projects, optimizing designs to meet client needs while ensuring regulatory compliance.
- **Team Leadership**: Achieved measurable operational improvements, reducing installation errors and coordination bottlenecks across geographically distributed teams, contributing to 30+ project success record.
- **System Design & Engineering**: Engineered scalable system architectures while integrating advanced solar arrays, hybrid inverters, and battery storage solutions to maximize energy efficiency and system reliability for diverse residential sites.
- **CRM & Workflow Integration**: Implemented robust project monitoring and documentation processes, including CRM integration and performance validation, improving forecasting accuracy and operational transparency for multiple stakeholders.

The BuildTeam - Remote **Mar 2020 – Apr 2023**
Founder & Technical Lead

Transformed concept designs into manufacturable solutions while leveraging advanced electrical and embedded system architectures to meet high-performance and regulatory standards. Built scalable documentation and knowledge frameworks, delivering technical guides and operational playbooks that supported maintenance, future upgrades, and rapid team onboarding.

- **Remote Team Management**: Pioneered remote engineering operations for custom LED and electrical systems, scaling project delivery capabilities while maintaining zero missed deadlines across global clients.
- **Operational Risk Mitigation**: Streamlined global production workflows, negotiating with international suppliers and aligning multi-timezone teams to minimize delays and operational risk.
- **Predictive Planning & Forecasting**: Introduced data-driven project governance, using milestone tracking, risk dashboards, and predictive planning to confirm consistent on-time delivery and better resource allocation.
- **Iterative Prototyping**: Elevated system reliability through rigorous validation, conducting integration testing, performance benchmarking, and iterative prototyping to exceed client functional expectations.

Self-employed - Remote **Jun 2018 – Mar 2020**
Embedded & Systems Engineer

Enabled scalable client adoption through comprehensive technical documentation, reusable design patterns, and maintainable code structures supporting future system upgrades. Engineered end-to-end microcontroller architectures, optimizing hardware-software integration to enhance system reliability, performance, and scalability for diverse applications.

- **System Validation & Testing**: Delivered robust embedded systems solutions across sensor and control applications, completing 10+ validated builds that consistently met client functional requirements.
- **Troubleshooting Excellence**: Resolved complex cross-domain integration challenges while bridging hardware, firmware, and peripheral interfaces to guarantee seamless system operation under real-world conditions.
- **Debugging & Quality Assurance**: Accelerated debugging and validation cycles through structured iterative testing, automated diagnostic routines, and acceptance criteria, reducing development timelines and defects.

ENGINEERING PROJECTS

Smart False Window - Embedded Lighting System

Simulated natural daylight cycles through custom microcontroller-based lighting architecture, enhancing indoor ambiance and energy efficiency. Integrated hardware components and enclosure design considerations, ensuring long-term reliability and consistent performance under real-world operating conditions. Implemented precision PWM control logic to manage brightness transitions while upholding thermal stability and component longevity.

Smart Light Alarm System

Automated lighting schedules with embedded firmware logic, enabling timed state transitions for alarm and lighting scenarios. Incorporated hardware-software controls for reliable synchronization between microcontroller signals and physical lighting outputs.

5×5 LED Matrix Audio-Reactive Display

Designed real-time audio processing firmware driving 5×5 LED matrix display, translating sound input into dynamic visual patterns. Executed signal processing algorithms on microcontroller to synchronize LED outputs with live audio input for immersive visual feedback. Heightened performance for low-latency response, delivering visually responsive and consistent audio-reactive displays.

Ford Ranger EV 2000 Battery Modernization (Ongoing)

Developing retrofit strategy to replace and upgrade legacy EV battery systems while confirming compatibility with existing vehicle electronics. Boosted energy density, safety, and EV performance by evaluating battery chemistries and integration constraints.

Capstone: Distributed Energy Storage in Active Distribution Systems

Modeled optimal sizing and siting of distributed battery storage systems to amplify reliability and grid efficiency. Conducted standards research and integration analysis for distributed energy resources in active distribution networks. Elevated power quality and system resilience, adjusting storage placement to support active distribution system operations.

EDUCATION & CREDENTIALS

BS in Electrical and Electronics Engineering (Honours)
Ontario Tech University | 2014 – 2018

Engineer-In-Training (EIT), Ontario Society of Professional Engineers | Apr 2018

The Ritual of the Calling of an Engineer, The Corporation of the Seven Wardens Inc. | Mar 2018

Standard First Aid & CPR/AED Level C, Canadian Red Cross | Sep 2017

TECHNICAL SKILLS

Languages: C, C++

Engineering Tools: MATLAB, PCB Design Software

Hardware: Microcontrollers, Embedded Control Systems

Systems: Solar & Battery Storage Architectures