Bryan Ranger – Engineering Résumé

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Professional Summary

Experienced electronics engineer with over 40 years of R&D expertise in defense systems, radiation-hardened (radhard) design, FPGA development, hybrid HVAC systems, and passive detection technologies. Founder of BR Engineering (destroyed in a fire), with deep experience in analog/digital systems and conceptual engineering. Known for pioneering radhard fuze technology and FPGA usage still active in aerospace programs like NASA.

Technical Expertise

- Analog and digital circuit design
- FPGA and embedded systems (radiation-hardened)
- Firmware development: Assembly and C
- Passive radar and signal reflection analysis
- Hybrid HVAC systems with custom PLC control
- Electromagnetic interference and shielding
- VHF/UHF signal propagation and stealth detection
- Concept development using AI tools like ChatGPT

Professional Experience

Founder & Principal Engineer, BR Engineering

- Led independent R&D in radhard electronics, analog/digital systems, and passive detection concepts.
- Developed stealth jet detection using analog TV ghosting and passive signal techniques.
- Designed a hybrid evaporative-compressor air conditioning system with PLC controller and white roof integration.
- Business was destroyed in fire; all technical IP retained and continuing development.

Contract Engineer – Hi-Tech (PA), Aerotek, Volt, Manpower

- Supported engineering projects at Rockwell, McDonnell Douglas, Texas Instruments, Northrop Grumman, L3, Orbital, TRW, and Litton.
- Delivered firmware (assembly/C), analog systems, and FPGA-based solutions in missile and aerospace applications.
- Focus on radiation-hardened and MIL-STD embedded designs.

Education

B.S. or M.S. in Electrical Engineering (Institution name to be confirmed)

- Focus: Analog & digital systems, firmware, and signal processing

References available upon request.