**Charles R. McConnell, Jr.**

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**Summary**

Engineering leader and strategic visionary with over 10 years of experience creating and executing technology plans that have shaped future growth in highly competitive markets. An inquisitive, constant learner, and creative problem solver with a passion for enabling the advancement of the state of the art and development of differentiated products. Expertise in:

* Team Engagement
* Requirements Development
* Technical Training/Mentoring
* Project Management
* Process Improvement
* Product Development
* Statistical Analysis
* Technology Maturation
* Data Analysis
* Object Oriented Programming
* Competitive Analysis
* Multi-Disciplinary Optimization
* Systems Engineering
* Modeling and Simulation
* Test Planning/Support

**Employment History**

**Stay at Home Parent**

**2016 - 2018**

**GE Aviation, Evendale, OH**

**2007 - 2016**

***Advanced Concepts Lead Engineer – (2011 – 2016)***

Contributed to long term business strategy and advised executive leadership risks to competitive position and opportunities for technology investment. Assisted in the identification and development of disruptive product propulsion concepts and maturation plans. Led cross-functional project teams in the evaluation of game-changing technologies and differentiated products.

**Accomplishments**

* Created parametric propulsion system models utilizing empirical and statistical methods enabling rapid evaluation of data related to product capability, performance, and costs.
* Quantified competitor advantage of year 2025 market segment product strategy. Advised executive leadership resulting in securing approval and funding to identify and evaluate alternate engine technologies.
* Developed requirements, key milestones, validation plans, budget, and long-term goals to create an automated model-based analysis environment for systems level design space analysis enabling a 96% reduction in process time and elimination of user generated error.
* Led cross-functional project teams to evaluate the merits of various engine technologies for long term product solutions identifying risks and opportunities across multiple capability requirements.
* Selected as team member tasked with identifying propulsion system concepts for next generation vehicle platforms resulting in the identification of five novel products for evaluation.
* Awarded patent for adaptive core engine architecture with 8% reduction in Specific Fuel Consumption and providing means of enhancing vehicle electrification capabilities.
* Led performance team in evaluation of underperforming engine development program to identify alternative engine concept and enable continuation of program with customer.

***Advanced Systems Cycle Design Engineer – (2007 – 2011)***

Conducted the design and analysis of propulsion architecture concepts intended to meet the requirements of next-generation air vehicle systems. Worked with internal partners and external customers to achieve business goals.

**Accomplishments:**

* Conducted assessment of Digital Engine Control software and hardware to reduce cost and risk to program while meeting system requirements for performance enabling module integration of separate product lines.
* Owner of performance engineering investigation into engine stall event utilizing Root Cause Analysis to identify underlying cause of failure mode enabling corrective action and program continuation.
* Identified innovative adaptive fan engine architecture concept for 5th generation fighter upgrade leading to new engine program.
* Led engine cycle design team in assessing advanced technology concepts to meet program goals of 25% fuel burn reduction.
* Developed pseudo Digital Engine Control logic for GE57 engine model providing customer with means of controlling multi-degree of freedom engine with a single input.

**Alliant Tech Systems, Rocket Center, WV**

**2006 - 2007**

***Ballistics Analysis Product Engineer***

Coordinated the design, development, and testing of solid rocket motor propulsion systems and components to meet performance specifications in support of multiple programs and marketing activities. Scheduled and monitored the manufacture and testing of hardware for quality. Customer interface regarding project/production status and potential improvements.

**Accomplishments**

* Project design engineer for long range strike demonstration program. Executed motor concept development program to flight test and met all goals for schedule, cost and performance which culminated in a successful flight test from a HIMARS launcher at White Sands Missile Range.
* Monitored production hardware for quality through inspection and lot testing to ensure product was within acceptable tolerance.
* Developed multiple rocket motor designs to meet performance, safety, and cost requirements for internal and external business development activities. Design authority of propellant and liner selection, propellant grain structure, motor case, and nozzle mechanical designs, and planning for component and full-scale hardware testing and post processing.

**University of Tennessee, Knoxville, TN**

**2005**

***Graduate Research Assistant***

* Development, fabrication, wind tunnel testing, instrumentation, and analysis of the aerodynamic properties of vortex generator configurations on a wing-flap system.

**Education**

* M.S. Aerospace Engineering, University of Tennessee, Knoxville, TN **2005**
* B.S. Engineering Tech., Middle Tennessee State University, Murfreesboro, TN **2002**

**Computer Experience**

* Numerical Propulsion Simulation Software (NPSS)
* MATLAB
* Model Center
* NX/Unigraphics
* Microsoft Office Suite
* Fortran, Python, C++, Visual Basic
* Minitab

**Certifications/Qualifications**

* GE Six Sigma Certified – Green Belt
* Secret/SAP Security Clearance

**Training**

* Edison Engineering Development Program
* GE Crotonville Leadership Development
* GE Business Immersion Program
* Engine Aircraft Systems Integration
* Gas Turbine Fundamentals
* Heat Transfer and Secondary Flows
* Jet Engine Teardown School
* Influencing Skills at GE
* Facilitation at GE
* Change Acceleration Process
* Presentation Skills

**Awards and Recognition**

* Nominated Perry T. Egbert Award HEETE Notional Product Conceptual Design
* Nominated Perry T. Egbert Award ADVENT Demo Engine PDR Cycle Audit
* Nominated Art Adamson Award ADVENT Vision Engine Studies
* Nominated Art Adamson Award ADVENT Demo Engine Design Integration
* Nominated Perry T. Egbert Award ADVENT Demo Engine Cycle Design
* Nominated Art Adamson Award ADVENT Vision System Conceptual Design Studies
* Nominated Art Adamson Award for Cool Core Engine Architecture