Alexander D. MacCalman, Ph.D.

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SUMMARY OF QUALIFICATIONS

Senior data, analytics, and digital transformation leader with proven experience executing multi-year strategic visions while leading a portfolio of innovation projects. A growth-minded, passionate leader who thrives in autonomous, complex, and uncertain environments with a team of diverse and talented people. A published author, systems thinker, Army Green Beret, and life-long learner.

WORK EXPERIENCE

U.S. Army Test and Evaluation Command (ATEC), APG, MD   **2019-2023**

Director of Analytics, AI, and Digital Engineering Modernization   **Oct 2021 - Present**
Directed cloud modernization efforts to digitally transform an 8,000-person enterprise responsible for delivering quality insights to senior-level decision-makers for all Army Acquisition Programs

- Developed and executed a cloud adoption strategy to build a modern data mesh enterprise architecture across 10 subordinate organizations, resulting in a design pattern to support data-centric analytics for the Department of Defense
- Directed a pilot project during the Project Convergence experiment to identify the information flows between 105 aerial and ground systems using an Azure Stack Edge and Azure Government Cloud, resulting in increased network observability and automated analysis workflows
- Founded a new Directorate focused on modern analytics, AI methodologies, and digital engineering practices to evoke cultural change toward digital transformation
- Product Owner of a modern edge and cloud data engineering pipeline enabling near-real-time understanding of network characteristics while reducing the time to insight by 50%

Director of Suitability Evaluations   **Aug 2019 - Sep 2021**
Directed a team of 100 evaluators and statisticians to deliver analytical insights for senior executives

- Managed the evaluations for over 40 Army Acquisitions Programs of Record by developing a framework to standardize a common reference model for all aspects of the suitability domain
- Managed data science projects to optimize the use of over 100 test reports and 3000 instrumentation data channels
- Developed a digital transformation strategy to modernize the Army Test & Evaluation enterprise

U.S. Special Operations Command (USSOCOM), MacDill AFB, FL   **2016 - 2019**

Director, Joint Acquisition Task Force   **Jan 2019 - Jul 2019**
Directed a team of engineers, system users, and acquisition professionals to accelerate innovations

- Responsible for the completion of the Tactical Assault Light Operator Suit (TALOS) Project, the #1 research and development priority for the USSOCOM 70,000-person enterprise from 2013 - 2019

- Directed an effort to define the Hyper-Enabled Operator (HEO) vision and the enabling technology pillars that would focus future Special Operations Science & Technology Research and Development priorities
- Instituted a 6-phased experimental process (define, design, build, integrate, test, learn) aligned with the Lean Startup methodology to integrate prototypes into experimental architectures

Chief Engineer, Tactical Assault Light Operator Suit (TALOS) Project   **Jun 2017 - Dec 2018**
Managed the technical development of a complex system known colloquially as the "Iron Man Suit"

- Planned and executed 46 technical efforts worth over $100M over a 6-year life cycle
- Managed a model-based system engineering architecture with over 400 configuration items and 1000 interfaces
- Directed a team of 180 subject matter experts from government, industry, and academia to design and build complex technical solutions through iterative rapid prototyping
- Provided technical direction, managed the integrated master schedule, established engineering processes, developed, and executed the master test plan for the TALOS Project

Branch Chief, Studies Division, Strategic Planning Division   **Jun 2016 - May 2017**
Directed analytical studies to support senior executive decisions

- Developed a decision support framework to prioritize over 1200 global campaign activities, resulting in an auditable model for the Commanding General to clearly articulate to the Secretary of Defense USSOCOM force employment priorities
- Directed analytical support for programmatic decisions of a $50B portfolio budget

United States Military Academy, West Point, NY   **Jun 2013 – May 2016**

Assistant Professor, Systems Engineering Program Director
Educated and inspired cadets, supervised faculty, and managed the systems engineering curriculum

- Developed and instituted a new department curriculum with 11 disciplinary sequences
- Assessed over 25 emerging high-priority technology systems to identify vulnerabilities
- Educated over 100 cadets in analytical simulations and system engineering practices

Frontline Operational Leadership, Training, and Education   **Jun 1995 – May 2013**
Led soldiers and projects as an Infantry / Special Forces Officer and Operations Research Analyst

EDUCATION

Doctor of Philosophy (Ph.D.) in Modeling and Simulations Analysis   Naval Postgraduate School
Master of Science (MS) in Operations Research   Naval Postgraduate School
Bachelor of Science (BS) in Engineering Management   United States Military Academy

CERTIFICATIONS & TECHNOLOGIES

Azure Solution Architect Expert • Azure AI Engineer Associate • Azure Data Engineering Associate • Azure Administrator Associate • CompTIA Security+ Certified • Certified Systems Engineering Professional • Project Management Professional • Top Secret / Sensitive Compartmented Information Clearance • Python • R • VBA • Java • MagicDraw • SysML• JMP • Confluence • JIRA • ProModel • GitHub • GitlLab • ArcGIS • Terraform

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