# Douglas Muhlbauer

**TS/SCI Clearance**

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## Profession Summary

Accomplished program manager, hardware/software developer, system architect/engineer and team leader with a proven track record of delivering innovative solutions to complex technical challenges. Recognized for leveraging deep technical expertise and analytical problem-solving to drive efficiency and innovation. A transparent and collaborative leader skilled in building high-performing cross-functional teams and managing large-scale projects from conception to completion.

## Education

***Computer Science***, Bachelor of Science, Hawaii Pacific University, Honolulu, HI, May 2002

## Professional Experience

**Defense Contractor | DoD & Intelligence Community** *August 2022 – May 2024*

REMOTE & NORTHVILLE, MI

- ***Program Management:*** Directed autonomous vehicle (Ford F-150 Raptor) R&D, collaborating with 3 universities and 5 small businesses to combine COTS hardware with custom robotics software.
- ***Data Optimization:*** Created analytic algorithms, boosting processing efficiency and time in service.
- ***Project Execution:*** Delivered all programs on time and within budget.
- ***Team Leadership:*** Coordinated cross-functional teams and subcontractors to streamline execution.
- ***Consulting Impact:*** Start-up company advisor, enhancing market readiness and driving revenue increases.
- ***Startup Mentorship:*** Guided startups in refining operations and improving key performance metrics.

**Chief Technology Officer** *June 2021 – August 2022*

STELLAR SOLUTIONS, PALO ALTO, CA

- ***Innovation Leadership:*** Delivered 5 novel space technology solutions, improving operations.
- ***Time-to-Market Gains:*** Reduced development timelines through strategic planning and execution.
- ***Budget Management:*** Oversaw multimillion-dollar projects with optimized resource allocation.

**VP for Tactical Mission Operations** *April 2018 – June 2021*

ORBITAL EFFECTS, ANN ARBOR, MI (FORMERLY R2 SPACE)

- ***Satellite Operations:*** Increased ISR satellite collection optimization.
- ***Cloud Architecture:*** Improved data processing speed through strategic cloud implementations.
- ***Stakeholder Collaboration:*** Managed relationships with 20 key partners, ensuring mission success.
- ***Strategic Vision:*** Directed initiatives leading to successful company acquisition.
- ***Team Leadership:*** Achieved project success across cross-functional teams and COTS providers.
- ***AI/ML Innovation:*** Enhanced efficiency through novel AI/ML algorithms for ISR platforms.

**Senior System Engineer** *January 2012 – April 2018*

STRATOS SOLUTIONS, CHANTILLY, VA

- ***Program Management:*** Supported NRO/GED on 10 major projects.
- ***SIGINT Integration:*** Successfully deployed legacy classified systems into modern architectures.
- ***Lifecycle Execution:*** Delivered projects seamlessly from planning to completion.

**Program Manager | Chief Engineer** *August 2002 – January 2012*

BIT SYSTEMS, DULLES VA

- ***Program Leadership:*** Lead development and deployment of greenfield software applications that led to significant increases in Overhead SIGINT collection capabilities.

## Military Experience

**Cryptologic Technician Maintenance First Class** *May 1992 – August 2002*

U.S. NAVY, 5TH FLEET & 7TH FLEET

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## Skills

**Programming and Development**

- *Proficiency in programming languages (e.g., Python, Java, C++, C#, JavaScript, Swift, Rust, Kotlin, Ruby, PHP)*
- *Full-stack development (frontend and backend)*
- *Software design patterns and architecture*
- *Web development (HTML, CSS, React, Angular, Vue.js)*
- *Mobile app development (iOS, Android, React Native)*
- *Game development (Unity, Unreal Engine)*
- *API design and integration (REST, SOAP)*
- *Embedded systems programming (Arduino, Raspberry Pi, RTOS)*
- *DevOps (CI/CD pipelines, Docker, Kubernetes, Jenkins)*
- *Version control (Git, SVN)*
- *Agile and Scrum methodologies*
- *Serverless architecture (AWS Lambda, Azure Functions)*

**Data Science and Analytics**

- *Data structures and algorithms*
- *Data modeling and normalization*
- *SQL and database management (PostgreSQL, MySQL, MongoDB)*
- *Big data technologies (Hadoop, Apache Spark)*
- *Machine learning and AI (TensorFlow, PyTorch)*
- *Statistical analysis (R, MATLAB)*
- *Data visualization tools*
- *Natural language processing (NLP)*
- *Predictive analytics*
- *Neural networks and deep learning*
- *Time-series analysis*

**Systems and Hardware Development**

- *Operating systems (Linux, Windows, macOS, Unix)*
- *Low-level programming (Assembly, C)*
- *Firmware development*
- *Computer architecture and hardware design*
- *PCB design and circuit analysis (digital, analog)*
- *Microcontroller and FPGA programming*
- *Signal processing (SIGINT, SAR, EW)*
- *IoT device development*
- *Real-time operating systems (RTOS)*
- *System-on-Chip (SoC) development*
- *Serial communication protocols (UART, SPI, I2C, CAN)*
- *High-speed interface design (PCIe, USB, Ethernet)*
- *Power management and design for efficiency*
- *Schematic capture and PCB layout tool*
- *Sensors and actuators integration*
- *Prototyping and rapid hardware development*
- *Safety-critical systems development (e.g., automotive or aerospace standards)*

**Security and Networking**

- *Cybersecurity principles and best practices*
- *Cryptography and encryption algorithms*
- *Network protocols (TCP/IP, UDP, HTTP/HTTPS, FTP)*
- *Firewalls and VPN configuration*
- *Intrusion detection and prevention systems*
- *Secure coding practices*
- *Ethical hacking and penetration testing*
- *Wireless networking (Wi-Fi, Bluetooth)*
- *Blockchain technology*
- *Distributed systems*
- *Cloud security and compliance*

**Cloud Computing and Virtualization**

- *Cloud platforms (AWS, Azure, Google Cloud, Gov Cloud)*
- *Virtualization technologies (VMware, Hyper-V, VirtualBox)*
- *Containerization (Docker)*
- *Server provisioning and management*
- *Hybrid cloud architecture*
- *Edge computing*
- *Load balancing and auto-scaling*

**Human-Computer Interaction**

- *UI/UX design principles*
- *Human-centered design*
- *Interaction design and usability testing*
- *Prototyping tools*
- *Accessibility standards Compliance*
- *Augmented reality (AR) and virtual reality (VR) development*

**Software Testing and Quality Assurance**

- *Test automation*
- *Unit, integration, and system testing*
- *Manual testing*
- *Performance testing*
- *Continuous testing in DevOps*
- *Debugging and profiling tools*
- *Code quality analysis*

**Project and Product Management**

- *Requirements analysis and gathering*
- *Roadmapping and backlog management*
- *Stakeholder communication*
- *Budgeting and resource allocation*
- *Risk management*
- *Metrics and KPIs for software development*

**Miscellaneous**

- *Robotics programming (ROS)*
- *Image and video processing (OpenCV)*
- *CAD software (AutoCAD, SolidWorks)*
- *Geographical Information Systems (GIS)*
- *Scientific computing (MATLAB, R)*
- *Technical writing and documentation*
- *Cross-platform development*