James Zapico, PE

Engineering leader with a 15+ year track record of leading multi-disciplinary teams through complex, high-stakes engineering projects. Expert in strategic planning, organizational transformation, and leveraging patented innovation to deliver significant business value and fiscal growth.

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Executive Profile

- **Strategic Leadership:** Proven ability to define and execute engineering strategy, leading multidisciplinary teams through complex challenges, including corporate acquisitions and high-stakes product launches.
- **Business Acumen:** Expertise in project cost estimation, budget management, and proactively identifying business risks and opportunities to increase efficiency and revenue.
- **Team & Talent Development:** Skilled in mentoring and empowering high-performing teams, fostering a culture of ownership and accountability, and recruiting top-tier talent.
- **Complex Problem Solving:** A history of applying advanced engineering principles to troubleshoot and solve high-stakes technical problems, developing novel, patented solutions in the process.

Skills

Leadership & Management

- Strategic Planning & Execution
- Fiscal and Resource Management
- Team & Organizational Development
- Stakeholder Management & Client Relations
- System Integration & Process Optimization
- Talent Acquisition & Interviewing
- Cross-Functional Leadership & Collaboration
- Organizational Transformation

Engineering & Technical

- Steel Structural & Mechanical Engineering (FEA, GD&T)
- Hydraulic Sizing & Circuit Design
- Forensic Root Cause Analysis
- FDM 3D Printing, Prototyping
- Patent Development

Experience

Hydraulics/Control Systems Project Engineer @ Patterson-UTI Drilling

Houston, TX: June 2023 - Present

Directed multi-disciplinary technical and vendor relationships.

- **Directed cross-functional efforts** with external vendors and partners to ensure deliverables were complete, compliant, and fit for purpose, resulting in a $40,000 cost savings from a single design correction.
- **Enhanced operational reliability** by producing and revising regular maintenance documentation and improving documentation for new software features.
- **Provided critical technical guidance** on a range of challenges from HVAC to hydraulic plumbing and VFD performance, ensuring project continuity and successful outcomes.
- **Spearheaded the development cycle** for new software features, from writing requirements to guiding development, testing, and commissioning.

Mechanical Engineering Manager @ Sarcos Technology & Robotics Corporation

Salt Lake City, UT: November 2021 - May 2023

Led productization of a complex robotics platform.

- **Proactively assessed and communicated strategic risks** to leadership, including the lack of clear requirements and product direction, demonstrating critical foresight and business acumen.
- **Drove engineering excellence** by evaluating conceptual designs and mentoring a team of direct reports and project contributors, fostering individual growth and accountability within a “Helix”-style assignment system.
- **Championed talent acquisition and development**, successfully defining hiring profiles and advocating for valuable team additions, contributing to a stronger engineering bench.
- **Served as Principal Investigator** on a government-funded project, securing additional funding and demonstrating technical leadership.

Project Engineering Manager @ Schlumberger

Houston, TX: March 2014 - November 2021

Directed development of next-generation mechanical/structural projects.

- **Transitioned from Senior Engineer to Project Engineering Manager**, retained as a key employee during the acquisition of T&T Engineering to lead the design and development of the “Rig of the Future” project.
- **Provided on-site leadership as the engineering representative** at the rig-up yard, adapting to dynamic challenges and providing immediate, multi-disciplinary solutions to maintain project momentum.
- **Orchestrated a cross-functional team** to debug complex electrical and hydraulic issues, collaborating with programmers and engineers to correct systemic problems and improve operational efficiency.

- **Championed a strategic material handling solution**, advocating for and designing a new hydraulic subsystem for a knuckleboom crane, proactively solving a critical project challenge.
- **Led two full engineering improvement cycles**, from initial structural and hydraulic analysis to post-operational design enhancements, demonstrating a commitment to continuous product optimization.
- **Applied advanced FEA and welding engineering principles** to proactively identify potential weld problems during the New Product Development phase, preventing costly failures in later testing.
- **Submitted 6 patents** in the fields of hydraulics, electrical engineering, and virtual reality, showcasing a commitment to innovation and intellectual property development across engineering domains.

Senior Engineer/Project Engineer @ Loadmaster Engineering

Houston, TX: Summer 2007 - Spring 2014

Directed R&D for next-generation drilling equipment.

- **Led the company's transition to 3D CAD**, helping to establish best practices and developing new workarounds and techniques to maximize the efficiency of the new software.
- **Engineered key components for major rig projects** including the Liberty Island and Sakhalin Island rigs, large-scale, arctic-rated, seismic-design land rigs with a 1.5 million pound hook load capacity.
- **Designed an innovative substructure for the Doyon Rig 25**, creating a cantilevered design that utilized the adjacent pipe house as a counterweight to safely manage severe loads.
- **Directed technical documentation and communication** for a massive offshore platform project, significantly improving the quality and clarity of technical content from a remote team in Beijing.
- **Promoted to Senior Engineer/Project Engineer** to lead the “AlphaRig” project, managing a team of 15 engineers and technical staff across multiple locations to design the company's next-generation rig.
- **Presented technical designs and project plans to C-level executives**, including the VPs of Chevron and the presidents of various vendors, demonstrating strategic communication and stakeholder engagement.
- **Contributed to the development and securing of 3 patents** in the fields of mechanical and control systems, demonstrating innovation in a core engineering function.

Education & Professional

Licenses	**Professional Engineer: Texas, Colorado**
2007	**Bachelors of Science in Mechanical Engineering** Texas A&M University (College Station, TX)

Patents & Applications

- **US12392225B2** - Power Management at a Wellsite - application in efficient electricity production, submitted 2020
- **US20210198980A1** - Method and system for generating virtual reality images of a drilling rig site, submitted 2019
- **US20190352979A1** - System for Moving a Transfer Bridge Crane, submitted 2018

- **US20180149175A1** - Metering Fluid to a Fluid Actuator, submitted 2016
- **US10458439B2** - Metering fluid to fluid actuators, submitted 2016
- **US9168962B2** - Drill Rig Relocation System, submitted 2015
- **US8936424B1** - Vertical Pipe Handler with Pivoting Arms and Smart Grip, submitted 2012
- **US9212526B1** - Portable moveable horizontal to vertical pipe handler, submitted 2012
- **US8949416B1** - Master control system with remote monitoring for handling tubulars, submitted 2012

Professional Development & Technical Interests

I maintain a passion for continuous learning through a variety of technical hobbies that reinforce skills in emerging technologies and complex problem-solving.

- **Rapid Prototyping & Digital Fabrication:** Hands-on experience with 3D printing for design validation and understanding manufacturing workflows.
- **Applied Programming:** Development of scripts and applications in C++, Python, and other languages for data analysis and system control.
- **System Administration:** Building and maintaining a personal server environment to deepen knowledge of networking and security.
- **Renewable Energy Systems:** Independent study into photovoltaic and battery backup systems, including data analysis and design.

The latest version of my resume is always available at **resume.jameszapico.com**.