



MICHAEL RICKS-AHERNE

PERSONAL

St. Louis, MO USA

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Dual US/Irish Citizenship

Inactive Secret Clearance

PROFESSIONAL SUMMARY

Highly experienced and adaptable Senior Director with over two decades of comprehensive involvement across the software development lifecycle, from coding to program management. Extensive background in aerospace and software industries, demonstrating proficiency in strategizing and leading cross-functional engineering teams, spanning in-house personnel to remote workers. Acknowledged expertise in architecting and managing complex cloud-based systems, including satellite mission control platforms. Track record of managing significant personnel budgets and implementing cost-saving measures, contributing to both operational and financial objectives of organizations. Renowned for pioneering innovative processes, building scalable solutions, and driving the execution of strategic initiatives. Proven history of mentoring emerging engineers and fostering a culture of continuous learning and growth. Outstanding leadership competencies, combined with an ability to deliver on strategic roadmaps, coordinate sales and marketing initiatives, and drive digital transformation. Has taken time out to nurture family life, indicating strong values and an ability to manage diverse responsibilities.

SKILLS

Leadership | Team Building & Training | Strategic Planning | Roadmap Development | Critical Thinking & Decision-making | Mentoring and Career Guidance | Agile Methodologies | Software Engineering | Full Stack Development | DevOps | AI-Enabled Solutions | Transformative Leadership | Distributed Team Management | Customer Service | Cloud Computing | Machine Learning | Testing and Quality Assurance | Project Management | Digital Transformation | Aerospace Engineering | Embedded Programming | Mission Operations | Satellite Command & Control | Attitude Determination & Control | Rocketry

WORK HISTORY

Senior Director, Practices & Solutions, *1904Labs*, St. Louis, MO 2022 - 2023

- Led and managed a dynamic team of approximately 70 engineers, ensuring the delivery of exceptional service to multiple enterprise customers.
- Orchestrated the strategic roadmap, providing guidance on the go-to-market strategy, and effectively coordinated sales and marketing initiatives for our flagship solution: AI-Enabled Customer Service.
- Spearheaded transformative changes to the Business Development and Sales departments, resulting in expanded career progression opportunities for engineers.
- Mentored and coached directors on effective leadership practices, fostering their growth and development, while providing valuable career guidance to individual engineers.
- Garnered extensive acclaim for exceptional alignment efforts, fostering seamless coordination, and delegated responsibilities, enhancing overall team efficiency and productivity.

Director, Mission Control, *Kubos Corp.*, Remote, 2021

- Spearheaded the establishment of the program vision and played a pivotal role in developing significant portions of the feature set, leveraging Ruby on Rails and React technologies.
- Significantly enhanced API scope and performance utilizing GraphQL, Websockets, and Python, resulting in improved efficiency and user experience.
- Assumed ownership of execution schedules and customer engagement, successfully coordinating the efforts of multiple Independent Contractors to ensure seamless project delivery.
- Provided comprehensive support to existing on-orbit customers, including round-the-clock Launch and Early Orbit Phase Support (LEOPS), guaranteeing the smooth operation of satellite missions.

Director, Modern Software Engineering, *1904Labs*, St. Louis, MO 2017 - 2021

- Successfully managed a substantial personnel budget exceeding \$5 million and a discretionary budget exceeding \$40,000, ensuring optimal allocation of resources for the Modern Software Engineering Practice.
- Pioneered the creation of the Study Group Program, a groundbreaking initiative that facilitated knowledge reuse and mentorship, resulting in significant value generation for the organization.
- Implemented a standardized Contribution Reviews process, empowering individuals with a self-directed approach that preserved autonomy while fostering personal and professional growth.
- Took ownership of weekly Leadership Touchpoint meetings, facilitating effective communication and coordination of strategic initiatives within the Modern Software Engineering Practice.

Senior Software Engineer, *Sauce Labs*, Berlin, Germany, 2015 - 2017

- Spearheaded multiple significant evolutions in the development process, introducing game-changing features such as automated branch testing, custom Slack integrations, a robust "follow the sun" PagerDuty setup, and Gated Commits. These advancements, implemented using technologies like Jenkins, Python, Coffeescript, and Groovy, resulted in substantial time savings for developers.
- Achieved a remarkable cost reduction of \$120,000 per year by successfully re-architecting the data storage layer, leveraging AWS S3 and CloudWatch services to optimize resource utilization.
- Expertly managed a small team while also serving as an AGILE Scrum Master, facilitating efficient and productive project execution and ensuring seamless collaboration within the team.
- Demonstrated exceptional skills in designing and building various web components,

ADDITIONAL EXPERIENCE

- **Systems Engineer:** Stinger Ghaffarian Technologies (SGT), Upper Marlboro, MD, 2006-2009
- **Aerospace Engineer:** FAA Office of Commercial Space Transportation, Washington, DC, 2003-2006

PUBLICATIONS

- **"Caerus - Concept Through Flight in Eleven Months: A Story of Rapid Response and Lessons Learned"** J. Tim Barrett, Michael Aherne, Will Bezouska, Jeff Sachs, and Lucy Hoag. Presented at the 2011 AIAA Space Conference, Pasadena, CA. (AIAA-2011-713)
- **"Colony I Meets Three-Axis Pointing"** M. Aherne, T. Barrett, L. Hoag, E. Teegarden, R. Ramadas. Presented at the 2011 Utah Small Satellite Conference. (SSC11-XII-7)
- **"Demonstration of Technologies for Autonomous Micro-Satellite Assembly"** M. Aherne, T. Barrett, W. Bezouska, and S. Schultz. Presented at the 2009 AIAA Space Conference, Pasadena, CA. (AIAA-2009-6504)
- **"Requirements for Amateur Rocket Activities"** Federal Aviation Administration. RIN 2120-2120-AI88. Published in the Federal Register, Vol. 73, No. 234, Dec 4, 2008.

EDUCATION

Master of Science in Astronautical Engineering, University of Southern California (USC), Los Angeles, CA, 2009-2012

Bachelor of Science in Engineering Physics, Minor in Mathematics, Embry-Riddle Aeronautical University (ERAU), Daytona Beach, FL, 1999-2003

Continuing Education

- iOS & Swift course by Dr. Angela Yu on Udemy
- Machine Learning course by Andrew Ng at Stanford University
- Conflict Management course by Najla DeBow at UC Irvine
- Software Testing course by John Regehr on Udacity

VOLUNTEERING

Mentor, Lift For Life Academy, 2017-2020
Mentor, Hackbright Academy, 2014-2015

LANGUAGES

English (C2-Native), German (A2-Waystage)

PROFILES

[LinkedIn](#)

INTERESTS

Flying | Rollerblading | SCUBA | Snowboard | Drums | Hiking | Photography

utilizing technologies such as Angular and JavaScript, to enhance the functionality and user experience of the Sauce platform.

- Demonstrated a commitment to continuous learning by excelling in continuing education classes focused on machine learning, gaining proficiency in popular frameworks such as TensorFlow and Octave.
- Mentored junior engineers, provided valuable guidance and support, and received recognition for outstanding documentation practices, contributing to knowledge sharing and team effectiveness.

Director, Mission Control, *Planet Labs*, San Francisco, CA, 2012 - 2015

- Designed and developed the majority of the microcontroller code for the first spacecraft, handling critical functions such as power management, inter-processor communication, scheduling, sensor acquisition, telemetry, and commands. Also contributed significantly to the codebase for the second spacecraft. Leveraged C programming on PIC initially and later transitioned to C on ARM.
- Implemented the camera software responsible for capturing the first 10,000 photos, utilizing C++ on a single-board computer (SBC).
- Established and maintained the company's continuous integration and deployment system, starting with Vagrant and shell scripts, evolving to Jenkins and Ansible on OpenStack, and ultimately deploying Jenkins and Ansible on AWS.
- Co-initiated and maintained the company's code review system, initially using Redmine and later transitioning to Phabricator.
- Promoted to lead the Mission Operations team during the Flock 1a project, overseeing critical operations.
- Architected and programmed substantial components of the Mission Control system using Python and Django on Postgres. Integrated monitoring tools such as Nagios, New Relic, and Elasticsearch. Implemented satellite tasking functionality with Celery and RabbitMQ, utilized caching with Memcache and Redis, and designed user interfaces with JavaScript, jQuery, D3, High Charts, Graphite, Bootstrap, and Backbone.
- Played a pivotal role in driving the long-term strategy for team composition. Conducted performance reviews, interviews, and managed the employee lifecycle before the company established an HR department.
- Led the expansion of remote worker infrastructure by advocating for the adoption of ChatOps, utilizing HipChat and Coffeescript.
- Co-led software development efforts for the Manufacturing and Production teams. Developed REST APIs and a website to manage allocation of bench satellites to developers, leveraging Python, Flask, and Django, and implemented Ground Support Equipment (GSE) using Arduino and Raspberry Pi.
- Introduced frontend unit testing to the Manufacturing Team's continuous integration process, utilizing Backbone and Jasmine.
- Mentored numerous interns and new hires across multiple teams, providing guidance and support to foster their professional growth.

Research Satellite Engineer, *The Information Sciences Institute (ISI)*, Marina Del Rey, CA, 2009 - 2012

- Solely programmed the complete flight software system for USC's first cubesat, *Aeneas*, launched on December 8, 2010, aboard SpaceX's Falcon 9 rocket. Utilized C programming on PIC microcontrollers for this achievement.
- Implemented the attitude control system for the pioneering surface tracking cubesat *Caerus*, launched in July 2012. Leveraged C programming on PIC microcontrollers and MatrixX/Simulink on Windows.
- Published research on rendezvous and proximity operations, showcasing the utilization of a vision-based autonomous tracking system. Utilized OpenCV and HAAR classifiers for this research.
- Refactored Mission Control as a website, employing PHP and MySQL technologies to enhance functionality and user experience.
- Designed and programmed control systems for thruster-based microsatellite prototypes, incorporating advanced techniques such as Kalman filtering, computer-assisted docking, and PID and phase plane controllers. Developed these systems using C programming on Rabbit microcontrollers.
- Developed functional and environmental test requirements for the Aeneas Cubesat program and held the position of Integration and Test Director, ensuring comprehensive testing and verification processes.
- Created an Application Programming Interface (API) for commanding microsatellites over a wireless TCP/IP network, utilizing a Rabbit 4000 microcontroller and employing C programming.
- Managed a team consisting of both graduate and undergraduate students, providing guidance and supervision throughout their involvement in various projects.
- Designed the SERC website and took responsibility for creating and maintaining visual content, including pictures and videos, using software such as Photoshop, MS Movie Maker, and Paint.net.