Matthew Kane

Chief Operating Officer at Pirouette Medical, Inc.
Portsmouth, New Hampshire, United States

Summary

I am a co-founder and Chief Operating Officer of Pirouette Medical.
I hold a MSc in aerospace engineering from the University of Notre
Dame and I am a life long learner.

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Experience

Pirouette Medical Inc.
6 years 6 months

Chief Operating Officer
November 2019 - Present (4 years 2 months)
Boston, Massachusetts, United States

• Management of timeline and resources using project planning tools such as
Gannt charts and Smartsheet.
• Risk Assessment and Management – Use of Failure Modes and Effects
Analysis, as well as Fault Tree Analysis
• Leader of FDA Regulatory Effort – Interface with FDA, submissions
confirming regulatory strategy, test plans, regulation compliance.
• Document Management and Control – Developed a paper-based document
control system.
• Quality Control – Leading the company in maintaining a quality control
system.
• Technical Design and Analysis – Assist the team in understanding the design
limitations through technical analysis using tools such as Computational Fluid
Dynamics, Finite Element Methods, and Tolerance Stack Analysis.
• Human Factors Engineering – Led and performed several human factors
trials to develop and iterate labeling and improve the device interface.

Chief Engineering Officer
July 2017 - November 2019 (2 years 5 months)
Cambridge, MA

Notre Dame Turbomachinery Laboratory
Test Engineer
September 2016 - June 2017 (10 months)

• Worked with a team of individuals to complete performance testing of a 1.5 stage axial compressor with variable vane geometry.

• Used several different measurement techniques including hot wire anemometry, total temperature, total pressure, 5 hole probe pressure measurements, unsteady wall pressure, torque, tip-timing (light probe) measurements, and dynamic strain measurements.

• Data acquisition through LabView (low speed 20hz) and Apex Turbine (high-speed 200khz).

• Data processed steady and unsteady data using MATLAB.

• Performed FEM Analysis on measurement rakes and probes with ANSYS workbench.

• Designed a calibration jet for flows of up to Mach 1 and temperatures up to 1200F.

• Troubleshooting of instrumentation and data anomalies.

roCKet Division
Co-founder, Design Engineer
September 2012 - May 2013 (9 months)
Applied Aerodynamics Lab - Clarkson University

• Designed and large scale model rocket as the test bed for an attitude control system.

• Worked to assemble a multidisciplinary engineering team to build and test the rocket.

• Built test fixtures and data acquisition to assess the performance of the rocket.

• Obtained funding from multiple sources, including departments within Clarkson, and local vendors.

• As a joint venture with the AIAA student chapter, which I was co-chair of, we hosted a outreach day at Clarkson university inviting local K-12 schools to come be inspired by aerospace engineering. The outreach day culminated in the launch of the rocket.

Clarkson University
Tutor
September 2012 - May 2013 (9 months)
Potsdam, New York, United States

I tutored students in higher level engineering classes, including advanced engineering mathematics, and aircraft structures.

Universität Siegen
Research Assistant
June 2012 - August 2012 (3 months)
Siegen, North Rhine-Westphalia, Germany

Worked as a research assistant to a graduate student. I used CFX to post-process and analyze unsteady results of a locomotive cooling fan. I used MATLAB to develop animations of pressure contours on the blades. Additionally, I built a front-end GUI in MATLAB to help visualize sound pressure levels (SPL) of experimental data. This tool was used at the sponsor's facility to help those unfamiliar with MATLAB to understand the data.

Universal Instruments Corporation
Assembler
May 2010 - September 2011 (1 year 5 months)
Conklin, New York, United States

I worked as an assembler during the summers of 2010 and 2011. I built tightly toleranced subassemblies that were used in machines to place surface mounted circuit board components on printed circuit boards. Additionally, I was part of a lean engineering effort to increase assembly efficiency.

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Education

University of Notre Dame
Master of Science (MSc), Aerospace Engineering · (2013 - 2017)

Clarkson University
Bachelor's degree, Aeronautical and Mechanical Engineering · (2010 - 2013)