Mauricio **Coen**

(+1) (617) 682-6210 | coen@tamu.edu | College Station, TX | maucoen

Seeking to collaborate with innovative students on Robotics, Big Data and Hardware projects during CodeRED

Education

Texas A&M University
College Station, TX

PH.D. IN AEROSPACE ENGINEERING — *September 2015 - PRESENT*

- Researching Autonomous Navigation for Space Applications, *advisor: Dr. Greg Chamitoff*
- Cumulative GPA: 3.75

Texas A&M University
College Station, TX

B.S. IN AEROSPACE ENGINEERING *Cum Laude* — *September 2011 - May 2015*

- Cumulative GPA: 3.67

Relevant Experience

SpaceCRAFT: A Virtual Reality Sandbox Environment
College Station, TX

INSTRUCTOR — *June 2016-present*

- Leading software development efforts to create a virtual reality sandbox environment, using Unreal game engine and C++.
- Co-teaching vertically integrated project class of 42 students, advising year-long class of 15 students.
- Implementing work flow management tools like Trello, Slack, Github, Google Drive for efficiency and productivity.
- Utilizing state of the art hardware including HTC VIVE and Leap Motion for full integration with manned space mission simulations.

ASTRO (AeroSpace Technology Research & Operations) Center
College Station, TX

ASSISTANT MANAGER — *September 2014 - PRESENT*

- Aid faculty in engaging in new research based on current and future states of the industry and in exploring industry opportunities.
- Create and maintain research center website (astrocenter.tamu.edu), point of contact for industries and College of Engineering.
- Participate in meetings with associated Faculty to explore industry opportunities and partnerships, current research interests.

AI Biosciences, Inc.
College Station, TX

CONSULTANT — *May 2014 - August 2015*

- Trained and advised a private lab on CAD-based prototypes and custom G-Code for low cost DNA diagnosis for disease identification.
- Developed CAD-based chemical processing parts for DNA diagnosis and prototyped them on 3D printer.
- Created custom G-Code for use of 3D printer as DNA extraction and amplification device.
- Documented processes and trained lab assistants to create CAD-models and edit G-Code for long-term biological testing.
- Results published in PLOS ONE, June 2016.

Senior Capstone Project
College Station, TX

CHIEF ENGINEER — *September 2014 - May 2015*

- Lead team of 15 students to design, build and launch only successful rocket in 11 years in the Aerospace Dept. at Texas A&M.
- Accomplished first successful Senior Design launch in 11 years in the Aerospace Department at Texas A&M.
- Lead team of 15 students to successfully design, build, test and launch a 7 foot, solid propellant rocket.
- Supervised CAD design implementation, manufacturing and testing program for parachute, solid propellant motor and fuselage.

Baker Engineering & Risk Consultants, Inc.
San Antonio, TX

ENGINEERING INTERN — *January-July 2013*

- Designed parts and tested procedures in explosion research to create sustained improvements in workplace safety for Oil & Gas clients.
- Designed stainless steel pressure vessel for LNG, LPG separation system, ($8000, 40% under budget).
- Aided in analysis of shock wave expansion and flame speed in explosion testing.
- Created an automated C++ program to calibrate pressure sensors, with applied numerical methods.
- Manually repaired hardware after explosion testing, built 20x40ft steel blast wall.

Publications

PLOS ONE — *College Station, TX*

A 3D Printer-Inspired Low-Cost Automated Sample Preparation and Molecular Detection Platform — *June 2016*

- K. Chan, M. D. Coen, C. Smith, K. Wong, S. Wilson, J. Hardick, C. Gaydos and S. Wong,

Journal of Analytical Chemistry *(Editors Choice)* — *College Station, TX*

Lab-on-a-Drone: Toward Pinpoint Deployment of Smartphone-Enabled Nucleic Acid-Based Diagnostics for Mobile Health Care — *June 2016*

- A. Priye, S. Wong, Y. Bi, M. Carpio, J. Chang, M.D. Coen et al.

Conferences

AIAA Space and Astronautics Forum and Exposition — *Long Beach, CA*

Integration of 3D SLAM, Rigid Body Landmarks and 3D Path Planning — *September 2016*

- B J. Morrell, G.E. Chamitoff, D. J. Kuether, M.D. Coen and P.W. Gibbens

The 14th International Conference on Space Operations — *Daejeong, South Korea*

Future Mars System Operational Simulation: Research Outcomes and Educational Benefit — *May 2016*

- B.J. Morrell, J.L. Read, M.D. Coen, A.B. Probe, G.E. Chamitoff , G.J James III.

AIAA Science and Technology Forum and Exposition — *San Diego, CA*

Recovery of an Asymmetric Spacecraft through Limited Control — *January 2016*

- M.D. Coen and J. Valasek

The 52nd Society of Engineering Science Technical Meeting — *College Station, TX*

SpaceX Hyperloop Pod Competition: Overview of Technical Challenges — *October 2015*

- M. Lagoudas and M.D. Coen

AIAA Undergraduate Student Conference Region IV — *Houston, TX*

Bringing the Zero Robotics Competition to Texas — *April 2015*

- M. D. Coen, K. Leysath and G. E. Chamitoff

Awards & More

Academic

2016	**Best Student Paper** The 14th International Conference on Space Operations	*Daejeong, South Korea*
2015	**1st place** Aggies Invent: Conflict, Development and Social Entrepreneurship	*College Station, TX*
2015	**2nd place, Technical** AIAA Undergraduate Student Conference, Region IV	*Houston, TX*
2015	**1st place, Community Outreach** AIAA Undergraduate Student Conference, Region IV	*Houston, TX*
2014	**2nd place, DNA to Go Portable Diagnostics** AggiE Challenge Engineering Showcase	*College Station, TX*

Other

Familiar with C++ (w/ Boost), MATLAB, Mathematica, G-Code (for 3D printing), Unreal Engine, HTC VIVE SDK, Leap Motion SDK, Solidworks

Unofficial Guinness World Record for longest distance remotely piloted quadcopter (College Station, TX - Sydney, Australia)

Fluent languages: English, Spanish

Extracurricular interests include surfing, triathlons, reading and mentoring