

W. Brandon Martin, PhD
Auspurger Komm Engineering, Inc.
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EDUCATION

PhD in Systems Engineering, Arizona State University, 2021
M.S. in Space Studies, University of North Dakota, 2019
B.S. in Electrical Engineering, Northern Arizona University, 2012

EXPERIENCE

W. Brandon Martin, PhD, is an Engineering Consultant with expertise in systems design and electrical engineering. He is also a certified Information Systems Security Professional. He received his Bachelors of Science in Electrical Engineering with a focus on signals and systems from Northern Arizona University and Masters of Science in Space Studies, focusing on human factors.

Dr. Martin has nine years of engineering experience to include system design, testing, and analysis. He also has seven years of communications experience and process analysis including cyber defense, networking protocols, and computer system troubleshooting. He is a member of the Institute of Electrical and Electronics Engineers.

CERTIFICATIONS

FAA Private Pilot License #A5268530
ISC² Certified Information Systems Security Professional
CompTia Security+

EXPERIENCE HISTORY

2021	-		Augsburger Komm Engineering, Inc., Engineering Consultant
2020	-	2021	GoX Studio, Systems Engineer
2019	-		US Air Force Reserve, Space Operations Officer
2019	-	2021	Arizona State University, Graduate Research Assistant
2013	-	2019	US Air Force, Cyber Security Officer

ACADEMIC PROJECTS

PhD Research

- Designed, built and tested a wearable robotic exoskeleton providing lifting and pushing assistance to USAF Airmen
- Designed and tested a standardized testing battery for upper body and lower body exoskeletons
- Further work in optimization, virtual/mixed/augmented reality, and mechatronics

ACADEMIC PROJECTS-continued

M.S. Research

- Designed, built, and tested an upper body exoskeleton to cooperatively work with a virtual environment
- Integrated real-time Mixed Reality (MR) display with spacesuit for real-time repair visual guidance for NASA SUITS Competition

Machine Learning

- Built/deployed image classification, text generation, and image generation routines
- Created/tested an AI powered drone program for autonomous takeoff/landing
- Designed a defense roadmap for USAF deployed locations for AI powered drone protection

Fabrication

- Tested efficacy of various print orientations for 3D metal printing
- Calibrated variety of 3D printers, laser cutters, and CNC and textile machines
- Designed/deployed multiple testing rigs for range of evaluation requirements

PROFESSIONAL AFFILIATIONS

Institute of Electrical and Electronics Engineers (IEEE) #98048661
American Society for Testing and Materials (ASTM) #2237075
Oakland County Association of Arson and Fire Investigators (OCAAFI)

CONTINUING EDUCATION

Advanced Fire Investigation Seminar; Prescott, AZ; July 27-29, 2022
OCAAFI 49th Annual Origin and Cause Seminar; May 4, 2022
Microgrid Design; Laboratory for Energy and Power Solutions (LEAPS); Aug – Oct 2020
Deep Learning Nanodegree; Udacity, May – Sep 2018

PUBLICATIONS

Martin, W.B. 2022. “Development of an Aerial Porter Exoskeleton and Exoskeleton Standardization Metrics.” Publication Number: 28776983. Doctoral Dissertation, Arizona State University. ProQuest Dissertations Publishing.

Martin, W.B., Boehler, A. Hollander, K. W. Kinney, D., Hitt, J. K., Kudva, J., Sugar, T. G., “Development and Testing of the Aerial Porter Exoskeleton,” Wearable Technologies, 2021

W. Brandon Martin, Alexander Boehler, Kevin Hollander, Darren Kinney, Joseph Hitt, Jay Kudva, and Thomas Sugar. 2020. “Aerial Porter Exoskeleton (APEX) for Lifting and Pushing.” The International Symposium on Wearable Robotics. Vigo, Spain.

Provisional US patent: 63/122,022: Hip Exoskeleton Structure for Lifting and Pushing

INVITED TALKS

- 2022 Hollander, KW, Martin, WP, 2022, Aerial Porter Exoskeleton (APEX) Development and Controls,” Wearable Robotics Association, WearRACon 22, Scottsdale, AZ, April 25-26.
- 2022 Hollander, KW, Martin, WP, Kinney, D, 2022, “PhenEx the Workplace Exo,” Sunrise Rotary Club, Scottsdale, AZ, October 20.

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