MATTHEW F. EATON

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400 Creek Mill Rd. Greensboro, NC, 27406

ROBOTICS ENGINEER / MAKERSPACE PROFESSIONAL

I am a passionate and skilled professional in Education and Robotics Engineering, with a wealth of experience in designing, implementing, and overseeing advanced robotics systems and educational initiatives. My proficiency in robotics engineering encompasses custom circuit board design, integration of mechatronic systems, and the creation of robotics platforms using ROS and other widely-used robotics frameworks. I have considerable experience in managing makerspaces and technical fabrication facilities, along with a strong background in mentoring and teaching engineers of all ages.

PROFESSIONAL EXPERIENCE

High Point University **June 2021 - Present**

Lead Makerspace Manager / Professor

- Designed and managed all operations for multiple engineering and makerspace facilities for the Webb School of Engineering Including managing equipment use, supervising projects, and developing SOPs and safety protocols for all university electrical, computer, mechatronics, mechanical, and robotics engineering programs.
- Served as an instructor for Fundamentals of CAD/CAM with Solidworks (ECE-1010) as well as the school's Intro to Engineering Design (ECE-1005) (MME-1005) course. Developing innovative curriculum, and managing undergraduate engineering students.

Maketory Makerspace **September 2020 - June 2021**

Lead Makerspace Curriculum Developer / Robotics Instructor

- Developed and implemented a comprehensive advanced manufacturing curriculum for a 26,000 sqft state-of-the-art makerspace.

Anyone Can Build Robots LLC **June 2019 - October 2022**

Founder / CEO

- Established an educational robotics corporation providing high-quality, innovative, and affordable robotics education and supplies through an online eCommerce platform that were shipped to customers worldwide.
- Responsibilities included custom circuit board design, custom software development, custom mechanics and robotics system design, and all high-level business operations. The company was sold in October 2022.

San Marcos High School **September 2020 - June 2021**

CTE Instructor Robotics & Engineering PLTW Instructor

- Facilitated instruction for Project Lead The Way Intro to Engineering Design, Principles of Engineering, and custom robotics course.
- FIRST Robotics Teach Coach - Alpha Knights Team 6695.

Fallbrook Union High School **September 2015 - June 2020**

CTE Instructor Robotics & Advanced Manufacturing Pathway

- Developed and Instructed innovative 4 year CTE pathway including "Intro to Mechanical/Electrical Engineering" "Robotics" "Biomedical Engineering" and "Advanced Engineering Principles".
- Guided robotics team to win first place in the State of California through the SkillsUSA "Engineering Design" competition, with a finishing score of 22nd in the nation.

STRENGTHS AND EXPERTISE

- Robotics Education
- Curriculum Development
- Embedded Electronics
- PCB Design
- Mechatronic Systems Design
- C++ / Arduino / Java
- Python / MicroPython
- 3D Design / CAD
- Laser Cutting / CNC Machining
- Welding and Metal Fabrication
- ROS / RVIZ / Gazebo
- Control System Design
- Digital Marketing / Business Development
- Industrial Robotics and Automation
- Mobile Robot Path Planning
- Robotic Actuator Control Theory
- Robot Chassis Testing and Design

EDUCATION

Kennesaw State University
Master of Science: Intelligent Robotic Systems Engineering (Graduating May 2024)

- Graduate Research Assitant
- Phi Kappa Phi Honor Society Member

Whitworth University
Bachelor of Art: Three Dimensional Design

Mira Costa College
Certificate in Mechatronics

- Over 600 hours of hands on Electrical and Mechanical Training.

CERTIFICATIONS AND AWARDS

Delft University of Technology

- ROS1x Robot Operating System Certificate (2022)

Dassault Systems

- Certified Solidworks Associate (2022)
- Credentialed Solidworks Educator(2022)

Occupational Safety and Health Administration

- OSHA-10 safety certified (2022)

Arduino Inc.

- Arduino Certification in Electronics and Physical Computing (2020)

PUBLICATIONS

- **“The Development and Implementation of a Cost-effective Educational Robotic Arm using ROS-MoveIT”,** 14th IEEE Integrated STEM Education Conference 2024

- **“The Design and Implementation of a Cost-effective Educational Robotics Platform for affordable ROS-Based Mechatronics and Robotics Labs”,** Robotics and Automation Engineering Journal, Volume 6, Issue 1. ISSN 2577-2899

- “**Make: Robotic Arms**” (In Progress), Make.Co Publishing, expected publish date 6/25. www.make.co / www.makershed.com