

Keith Arie Becker

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Creative and collaborative embedded hardware and software engineer with over 5 years of professional experience in electrical and mechanical design, in a variety of engineering industries and skill sets. My experience includes working with aeronautical PLC and pneumatic equipment, digital electronics and microcontrollers, PCB design, CAD, software and hardware programming, manufacturing and machining design, as well as web development. I have designed products from concept to industrialization, incorporating full life-cycle design and project management skills. I also have experience with unmanned aerial systems design and operation.

EDUCATION

Vanderbilt University – Nashville, TN
BS, Mechanical Engineering

May 2012

- 1st place award for 2011 IMAV (International Micro-Aerial Vehicle) contest senior design-team paper: *“A Biomimetic Wing-Actuation Mechanism for Micro Aerial Vehicles.”*
- FIRST Robotics Instructor

RELEVANT TECHNICAL SKILLS

- **COMPUTER SCIENCE:** C | C++ | JavaScript | Python | PHP | UI/UX Design | Microsoft Visio | Microsoft Office Suite | HTML5 | CSS | Web Development
- **CAD:** Autodesk Fusion 360 | Autodesk Inventor/AutoCAD | CATIA v5 | Altium PCB | EAGLE | SPICE | MATLAB | LabView | FEA/FEM and CFD Analysis | 3D Printing | CNC | Unreal Engine 4 | CAM | CNC Machining
- **EMBEDDED HARDWARE :** AVR, STM, PIC Microcontrollers | Unitronics PLCs | Ladder Logic | Visilogic

RELEVANT WORK EXPERIENCE

Aerowing, Inc. – Nashville, TN
Design Office Project Manager

2012 – 2016

Aerowing is an aerospace MRO company providing fuel tank leak detection and repair support to both U.S. military operations and commercial aircraft manufacturers.

My responsibilities included:

Electrical and pneumatic circuit design, PLC programming, CAD design (CATIA), presenting new products and optimizations to customers, writing specifications, budgets, safety, working with vendors, machining and mechanical design for manufacturing, documentation and technical manuals, aerospace-grade industrial processes and equipment, and high sensitivity equipment.

Coilmaster Corporation – Moscow, TN
Application Engineer

2016 – 2018

Coilmaster is an OEM international provider of HVAC heat exchanger units and psychrometric testing for a variety of commercial and industrial customers. They build and manufacture refrigeration cycle products including condenser

units and evaporator coils.

My responsibilities included:

Performance and cost optimization of heat exchanger circuitry and material design, advising clients on requirements and industrial scale projects, and CAD design for CAM and sheet metal manufacturing. I also worked closely with our manufacturing and machining facility to produce quality results.

Vertex Design Studios – Memphis, TN

Owner, Electrical Product Developer

2018 – Present

Began a freelance business where I continue to provide electrical engineering design for customers worldwide. I developed my knowledge of electrical engineering and hardware programming and have used those skills to help the growing market of digital devices. Many of my projects include schematic and circuit design, embedded microcontroller firmware C++ programming, wireless connectivity, HMI design, and sensor hardware. I have also used this opportunity to work on UAV systems design.

Projects skills include:

Schematic and PCB design, embedded hardware systems and sensors, automation, web server integration, website development, Internet Of Things (IoT) devices, LCD and GUI interfaces, motor and power system design, UAV flight controller design, BLE wireless/RF communication, and hardware communication protocols.

OTHER

- Certified Private Pilot
- Open Water Diver