David Allen Blubaugh

1-937-304-7952 davidblubaugh2000@yahoo.com Springboro, Ohio 45066

Research Engineer | Electrical Engineer | Technical Author

Electrical Engineer with over 15 years of experience supporting research, software development, robotics, autonomous systems, embedded systems, and engineering education. Experienced in Python, C++, MATLAB/Simulink, SysML v1/v2, machine learning, data analysis, laboratory research, and technical writing. Published author and educator with demonstrated success developing research products, mentoring students, conducting applied research, and communicating complex technical concepts through presentations, publications, and instructional materials.

Relevant Experience

Mission and Digital Engineering | DAGSI / SOCHE / AFRL | February 2026–Present (40 Hours/Week)

- Verified and Validated testing and development of Python, Java, Promela, and C/C++ from SysML v2 specification models. Developed a flight simulator using Python based on JSBSim and Flightgear.
- Develop SysML v2 and MBSE models supporting Bio-Inspired Rotating Empennage (BIRE) research.
- Create digital engineering artifacts linking requirements, architecture, simulation, verification, and validation.
- Perform F-16 BIRE conceptual integration using SolidWorks and AutoCAD.
- Support flight-control architecture, modeling, safety analysis, and multidisciplinary aerospace collaboration.

Advanced Technologies and Resources (ATR), LLC

Research Engineer / Consultant | March 2008–February 2026 (40 Hours/Week)

- Conduct research in artificial intelligence, autonomous systems, embedded systems, and robotics.
- Develop software applications using Python, C++, Java, and FPGA technologies.
- Design and test embedded hardware and software systems for government research projects.
- Develop technical reports, presentations, and research deliverables.
- Support laboratory research, equipment integration, and system validation activities.
- Perform data analysis and algorithm development for autonomous and intelligent systems.

Sinclair Community College

PLC Automation, Robotics, and sUAS Research Associate | March 2015–2020 (20 Hours/Week)

- Conducted research in autonomous unmanned aerial systems, precision agriculture, and risk analysis.
- Developed Bayesian Belief Network models using Python, C++, and R.
- Supported laboratory activities for Instructors and Students involving robotics, machine vision, PLCs, and automation systems. Added students learning and comprehension of course materials as a Tutor for student excellence and advancement.

Manning Publications

Technical Reviewer and Author | September 2018–Present (30 Hours/Week)

- Review and validate source code for technical publications involving artificial intelligence, software engineering, and data science in Python, Java, C/C++.
- Evaluate technical accuracy and provide editorial recommendations.

Apress Publishing

Author – Intelligent Autonomous Drones by Cognitive Deep Learning | January 2020–2022 (50 Hours/Week)

- Authored a technical book on artificial intelligence and autonomous systems.
- Developed instructional content covering machine learning, robotics, software, and system development.
- Produced technical documentation and educational materials for graduate-level readers.

Aerotek / Schneider Electric, Oxford, OH

SQL / Python / Electrical Engineer (Contract) | 12/2012 – 5/2014 (40 Hours/Week)

- Programmed Ladder Logic in RSLogix5000 for L33ER/L35E Allen Bradley and Schneider Electric PLCs.
- Automated barcode data capture and integration into a legacy Quote-to-Cash system using handheld scanners.
- Streamlined barcode processing with SQL, Python, Java, and C#.
- Designed GUI prototypes for scanners using C# and C++ Qt, incorporating WIN32 and MFClibraries.

Synthetic Blood International

Test Electrical Engineer | May 2001-May 2002 (40 Hours/Week)

- Led R&D initiatives in the development of synthetic oxygen-carrying blood substitutes for battlefield use.
- Managed a team of biomedical and embedded systems engineers to design real-time feedback control systems for perfusion testing.
- Applied VHDL and embedded C to build closed-loop testing infrastructure; implemented formal methods to verify safety protocols.
- Interfaced with FDA regulatory bodies to ensure prototype compliance with Class III medical device standards.

Education

- Master of Science, Electrical Engineering Wright State University, Dayton, OH GPA: 3.90/4.0
- Bachelor of Science, Electrical Engineering Wright State University, Dayton, OH GPA: 3.32/4.0

Technical Skills

- Programming: Python, C++, Java, MATLAB, Simulink
- Data Analysis, Machine Learning, Bayesian Networks, and Statistical Analysis
- Engineering: Embedded Systems, Robotics, Automation, Autonomous Systems
- Software & Platforms: Linux, SQL, FPGA Development, LabVIEW

Publications and Patents

- Author, Intelligent Autonomous Drones by Cognitive Deep Learning (Apress)
- Multiple recent articles May-June 2026 regarding SysML version 2 and AI with the DENA (Digital Engineering North America) magazine publication.
- U.S. Patent 6,269,595.

Fellowship Awards and Professional Memberships

- RAPCEVAL (Receiver and Evaluation Program) Graduate Fellowship 2006
- IEEE: Society of Aerospace Electronics
- EAA (Experimental Aircraft Association) for SolidWorks BIRE Development
- Dayton Engineering Club has been a member since 2000.

Personal Information

- United States of America CITIZEN REFERENCES AVAILABLE UPON REQUEST