BRIAN E. STITT

Instructional Technologist | Automation Specialist | Advanced Manufacturing Training Designer

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PROFESSIONAL SUMMARY

Innovative technologist and educator with 20+ years of experience designing, developing, and delivering complex IT and automation solutions at the U.S. Environmental Protection Agency (EPA). Currently serving as Adjunct Professor at Wake Technical Community College, teaching robotics and PLC programming using industry-standard Allen Bradley PLCs, Fanuc robotic arms, and Allen Bradley robotic arms. Expertise spans instructional design, workforce training, and advanced manufacturing education, with a unique blend of hands-on technical knowledge in industrial robotics, automation systems, and electronics engineering. Pioneer in educational robotics program development, having created foundational Mitsubishi Robotics training materials at Bowling Green State University that catalyzed the launch of a new Bachelor of Science in Mechatronics Engineering Technology degree program. Expanding expertise in educational robotics platforms including the DJI RoboMaster EP Core to deliver practical AI and robotics instruction across all skill levels. Actively pursuing Professional Engineer (PE) licensure in Electrical Engineering and multiple advanced manufacturing certifications to strengthen instructional capabilities. Proven track record in grant development, public-private partnership cultivation, and aligning workforce training programs with industry needs.

CORE COMPETENCIES

Instructional Design & Workforce Development

- Instructional Design & Training Delivery
- Curriculum Development & Certification Alignment
- Experiential & Hands-On Learning Methods
- STEAM Education & Robotics Instruction
- Workforce Training & Professional Development
- Training Program Evaluation & Continuous Improvement
- Technical Communication & Knowledge Transfer
- Student-Centric Learning Approaches

Technical Expertise

- Advanced Manufacturing & Automation Systems

- Educational Robotics (DJI RoboMaster EP Core, Mitsubishi Robotics)
- Electronics Engineering & Industrial Engineering Technology
- Python & Scratch Programming for Robotics Education
- AI & Computer Vision Applications
- Data Integration & Automation Solutions
- Cloud Architecture & Infrastructure Management
- Sensor Integration & IoT Systems

Program & Project Management

- Project Planning & Program Management
- Cross-Functional Team Collaboration
- Industry Partnership & Stakeholder Engagement
- Strategic Alignment with Workforce Initiatives
- Grant Research, Development & Proposal Writing
- Budget Management & Resource Allocation

PROFESSIONAL EXPERIENCE

Adjunct Professor - Robotics and PLC Programming
Wake Technical Community College, Raleigh, NC
Present

Instructional Delivery & Curriculum Implementation

- Teach robotics and programmable logic controller (PLC) programming courses to students in advanced manufacturing and automation technology programs
- Deliver hands-on instruction using Allen Bradley Programmable Logic Controllers (PLCs) for industrial automation applications
- Provide practical training on Fanuc robotic arms, covering programming, operation, and industrial applications
- Instruct students on Allen Bradley robotic arms, including programming, troubleshooting, and integration with manufacturing systems
- Develop and facilitate lab exercises that simulate real-world industrial automation scenarios

- Integrate industry-standard practices and safety protocols into all instructional activities
- Assess student performance through hands-on demonstrations, programming assignments, and practical examinations
- Prepare students for industry certifications and workforce readiness in advanced manufacturing

Technical Expertise Applied

- Allen Bradley PLC programming (ladder logic, function block diagrams, structured text)
- Fanuc robotic arm programming, teach pendant operation, and trajectory planning
- Allen Bradley robotic arm configuration, programming, and integration
- Industrial automation system design and troubleshooting
- Human-machine interface (HMI) development and integration
- Safety systems and industrial standards compliance

Information Technology Specialist

U.S. Environmental Protection Agency (EPA), Research Triangle Park, NC
2006 – Present

Instructional Design & Training Delivery

- Design and deliver training sessions for 100+ staff and contractors on information systems, cloud hosting policies, data-driven workflows, and emerging technologies
- Develop comprehensive internal training resources supporting onboarding, knowledge transfer, and professional development for EPA teams using productivity platforms and cloud data collection tools
- Lead recurring educational forums highlighting technical use cases in data visualization, analytics, collaborative digital platforms, and automation best practices
- Create and deliver process walkthroughs, learning modules, and hands-on training for real-time data workflows and cloud service integration techniques
- Conduct training classes educating staff on technical procedure changes, system workflows, and business processes, ensuring smooth transitions and consistent adoption across teams

Automation & Data Integration Projects

- Designed nationwide air quality monitoring system leveraging real-time streaming data from 500+ sensors, deployed in scalable cloud-based container infrastructure
- Created automated data pipelines migrating and normalizing legacy content across document systems, transforming it into usable formats for web and internal applications

- Automated applicant data intake and tracking by integrating email-based workflows, form data extraction, and digital task boards using productivity and automation platforms
- Consolidated financial and performance data across departments into dashboard-driven reporting systems, improving visibility into customer service, workforce performance, and internal metrics
- Developed IoT sensor data collection and processing solutions for environmental monitoring applications

Cloud Architecture & Infrastructure Management

- Developed cloud solutions supporting real-time data collection from government air quality remote sensing sensors, enabling scalable ingestion, processing, and monitoring
- Standardized performance monitoring and alerting dashboards tracking infrastructure health and cybersecurity using log data profiling and cloud-native analytics tools
- Participated in agency-wide initiatives transitioning legacy systems to cloud-hosted environments while ensuring alignment with security protocols and enterprise architecture standards

Program & Policy Implementation

- Managed stakeholder adoption for cloud platforms, aligning expectations and system usage with federal IT policy and compliance requirements
- Oversaw license procurement, subscription forecasting, and usage monitoring for enterprise-level software and analytics services
- Collaborated with engineering and operations teams ensuring readiness of lab environments and alignment with program delivery goals
- Contributed to workforce development initiatives through process improvement and skills training aligned with agency performance frameworks

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Community Health Worker (CHW) / IT Administrator
Women Leading for Wellness and Justice (WL4WJ), West End, NC
2022 – Present | Volunteer

Community Technology & Data Solutions

- Developed comprehensive data solutions for collecting, processing, and reporting data in alignment with grant requirements and program evaluation metrics
- Proactively researched and identified funding opportunities aligned with community health, workforce development, and technology integration goals
- Collaborated with nonprofit leaders, technical staff, educators, and grant coordinators to develop compelling proposals, playing key role in drafting and reviewing grant applications supporting instructional

equipment acquisition and new training program implementation

- Deployed and configured mobile devices and Chromebooks for field-based data collection, enabling Community Health Workers to gather real-time information from community members
- Designed and deployed secure, unified communications platform enabling CHWs to leverage existing smartphones while adding professional capabilities including soft phones, voicemail, video conferencing, and chat functionality
- Implemented scalable communication infrastructure allowing WL4WJ to efficiently onboard additional CHWs as community needs expand

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Robotics Training Program Developer (Academic Foundation)

Bowling Green State University
1996-1998

Pioneering Educational Robotics Initiative

- Developed comprehensive Mitsubishi Robotics training manual introducing students to robotics fundamentals, industrial automation principles, and hands-on programming
- Created foundational curriculum materials that served as catalyst for university's launch of new "Bachelor of Science in Technology specializing in Mechatronics Engineering Technology (ROBO)" degree program
- Designed hands-on learning modules integrating electronics engineering, industrial automation, and robotics control systems
- Established framework for experiential learning in advanced manufacturing technologies that influenced institutional program development

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CURRENT ROBOTICS & AI EDUCATION FOCUS

Educational Robotics with DJI RoboMaster EP Core
Workshop Design & Curriculum Development

- Designing comprehensive robotics workshops utilizing DJI RoboMaster EP Core platform for diverse age groups and skill levels
- Developing hands-on curriculum covering AI fundamentals, autonomous navigation, computer vision, and robotic manipulation
- Creating progressive learning modules from basic Scratch programming to advanced Python AI applications

- Integrating real-world applications including obstacle avoidance, object detection and manipulation, and multi-robot coordination

Technical Implementation & Instruction

- DJI RoboMaster EP Core system configuration, programming, and maintenance
- Robotic arm calibration, gripper control, and Mecanum wheel omnidirectional movement systems
- Third-party hardware integration (Micro:bit, Arduino, Raspberry Pi) with educational robotics platforms
- Computer vision implementation using onboard cameras for object detection and scene recognition
- Sensor integration (ToF infrared distance sensors, motion controllers, hit detection modules)

Instructional Projects & Demonstrations

- AI-powered autonomous navigation systems using sensor feedback and real-time decision making
- Multi-robot coordination and communication protocols for collaborative tasks
- Object manipulation challenges integrating vision, motion planning, and gripper control
- Custom sensor integration expanding robot capabilities for specialized applications

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EDUCATION

Master of Science – Industrial Engineering Technology
Bowling Green State University, 1998

Bachelor of Science – Electronics Engineering Technology
Bowling Green State University, 1996

CERTIFICATIONS & PROFESSIONAL DEVELOPMENT

In Progress:

- **Professional Engineer (PE) Licensure –** Electrical Engineering
- **Certified Production Technician (CPT) 4.0 and CPT+ Skill Boss Certification –** Expanding hands-on instructional readiness in advanced manufacturing processes and technical skill assessment
- **Smart Automation Certification Alliance (SACA) Silver & Gold Certifications**
- **Smart Energy Systems and Microgrid Certifications –** Supporting instruction in emerging energy technologies and sustainable infrastructure

Current Certifications:

- **Splunk Core Certified User and Power User –** Data insights, dashboards, system monitoring, cybersecurity, and performance metrics
- **Experience with PMMI and MSSCUSA Certification Standards**
- **Simulation-Based and Hands-On Training Tool Design**

TECHNICAL SKILLS

Robotics & Automation

- Industrial Robotics (Fanuc Robotic Arms, Allen Bradley Robotic Arms)
- Programmable Logic Controllers (Allen Bradley PLCs - Ladder Logic, Function Block, Structured Text)
- Educational Robotics Platforms (DJI RoboMaster EP Core, Mitsubishi Robotics)
- Robotic Arm Programming, Teach Pendant Operation & Trajectory Planning
- Industrial Automation System Design & Integration
- Human-Machine Interface (HMI) Development
- Omnidirectional Drive Systems (Mecanum Wheels)
- Sensor Integration & Calibration (ToF, Infrared, Motion Control, IoT)
- Motion Controller Configuration
- Industrial Automation Principles & Safety Standards
- CAN Bus Communication Systems

Programming & Development

- Python 3.6+ (AI Applications, Data Automation, Multi-Robot Communication)
- Scratch 3.0 (Block-Based Educational Programming)
- DJI SDK (Official & Open-Source)
- Data Pipeline Development & ETL Processes
- Cloud-Based Application Development
- API Integration & Automation Scripting

AI & Computer Vision

- Object Detection & Recognition
- Autonomous Navigation Systems

- Computer Vision Implementation (OpenCV concepts)
- Pattern Learning & Data Analysis
- Scene Recognition
- AI Platform Integration (NVIDIA Jetson Nano familiarity)

Data & Infrastructure

- Cloud Architecture (Data Collection, Processing, Monitoring)
- Real-Time Data Streaming & IoT Systems
- Dashboard Development & Data Visualization
- Log Analytics & Performance Monitoring
- Cybersecurity Monitoring & Alerting
- Database Management & Normalization

Instructional Technology

- Learning Management Systems
- Simulation-Based Training Tools
- Multi-Platform Training Delivery (iOS, Android, Windows, Mac)
- Virtual Collaboration Platforms
- Curriculum Development Software
- Assessment & Evaluation Tools

GRANT DEVELOPMENT & PARTNERSHIP EXPERIENCE

- Proactively research and identify funding opportunities aligned with workforce development, technology integration, and community programs
- Collaborate with internal and external stakeholders including nonprofit leaders, technical staff, educators, and grant coordinators to develop compelling proposals
- Play key role in drafting and reviewing grant applications supporting acquisition of instructional equipment and implementation of new training and education programs
- Cultivate public and private sector partnerships bridging workforce needs with educational program development

- Assist in development of IT infrastructure inputs and technology components for grant applications, ensuring technical feasibility and sustainability

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WORKSHOP & PRESENTATION CAPABILITIES

- Design and deliver comprehensive technical training workshops for diverse audiences (students, professionals, community members)
- Create engaging hands-on learning experiences combining theory with practical application
- Develop curriculum aligned with industry certification standards and workforce development goals
- Facilitate competitive learning experiences and robotics demonstrations
- Adapt instructional strategies to meet diverse learner needs and maximize learning outcomes
- Conduct professional development sessions for educators on implementing emerging technologies in curriculum

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KEY STRENGTHS

- **Systems-Oriented Perspective:** Combines electronics engineering, industrial engineering, and information technology backgrounds to address complex interdisciplinary challenges
- **Educational Innovation:** Track record of developing pioneering training programs that catalyze institutional change and program development
- **Technical Breadth:** Seamlessly bridges hardware (robotics, electronics, sensors) with software (programming, AI, cloud systems) and pedagogy
- **Practical Application Focus:** Consistently translates complex technical concepts into accessible, hands-on learning experiences
- **Collaboration & Partnerships:** Effectively engages stakeholders across government, nonprofit, education, and industry sectors
- **Continuous Learning:** Actively pursuing multiple professional certifications and licensure to expand instructional capabilities

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PROFESSIONAL AFFILIATIONS

- Pursuing Professional Engineer (PE) licensure – demonstrates commitment to professional engineering standards
- Smart Automation Certification Alliance (SACA) – candidate for Silver & Gold certifications

- Manufacturing Skill Standards Council (MSSC) – familiar with CPT certification standards
- PMMI (The Association for Packaging and Processing Technologies) – familiar with certification frameworks

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ADDITIONAL INFORMATION

Location: Raleigh, NC (willing to travel for workshops and training delivery)
Clearance: U.S. Federal Government Employment (EPA)
Availability: Available for consulting, workshop facilitation, curriculum development, and training program design

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References, portfolio of training materials, and robotics project demonstrations available upon request