

# Taylor J Turner

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Software and Electrical Controls Engineer with experience developing advanced logistic applications, designing hydraulic control systems, and implementing chemical process instrumentation.

## Work Experience

### Bastian Solutions: Robotics - Software Engineer

September 2022 – Present

- Scope:
- Developed software to coordinate robots, vision systems, and automation controllers, enabling streamlined logistics operations.
  - Implemented cloud-based solutions for blob storage and containerized deployments, streamlining CI/CD pipelines and reducing deployment time by 40%.
  - Transitioned prototypes from R&D into production-ready products by establishing testing frameworks and product analytics for iterative improvements. Stable product lines were established and multiple deployments contracted, creating customer partnerships.
- Projects:
- **Pick and Drop:** Pallet pick and drop Python application that detected pallet pocket locations and serialized motion data from an IFM vision system to a FANUC robot via socket communication.
  - **Smart Pick:** Bin picking solution that interfaced an in-house vision system and large language models to guide a robot's motion pipeline. Supporting software tools were also developed, including annotation management software using Azure cloud blob storage and a developed Angular UI for data filtering and AI dataset version control.
  - **Image Picker:** Screen controller for management software that facilitated communication between warehouse picking orders and robots, which used character recognition(OCR) and mouse(HID) to control the management software.
  - **Stack Order:** Box stacking pattern generator for palletization applications. This in-house software was migrated from WinForms to .NET Core and React.js and multi-client web application.

### Beckwood Press - Electrical Controls Engineer II

October 2021 – September 2022

### Beckwood Press - Electrical Controls Engineer I

October 2016 – October 2021

- Scope:
- Led electrical system design which included PLC programming, designing UL 508A-certified panels and successful customer acceptance testing.
  - Developed and maintained machine parameterization databases and standardized control programs, improving modularity and speed of deployment.
  - Conducted performance analysis of new product lines, directly informing product enhancements and market readiness.
- Projects:
- **Hydraulic Control:** Closed-loop control algorithms and kinematic models to control the position or force of hydraulic cylinders. The software implemented feed-forward control, kalman filtering, and target generation on multiple automation controller platforms.
  - **Servo Press:** All electric driven press powered by Yaskawa and Allen-Bradley servo controllers. Encoder driven position and load cell force feedback provided the highest level of accuracy of any product line.
  - **Auxiliary Systems:** Control solutions for custom infeed/outfeed, containment, or conveyance systems.

### EPIC Inc. - Electrical Controls Electrician

December 2014 – October 2016

- Scope:
- Assembled electrical panels and machinery for pilot plants, vision systems, and custom industrial equipment.
  - Interpreted and implemented designs conforming to NEC, sanitary/wash-down, and Class I Division I standards.
  - Supported engineering during startup and factory acceptance testing to verify functionality and compliance.

## Skills

<b>Languages:</b>	Python, C#, C++, TypeScript, T-SQL, Structured Text (IEC 61131-3)
<b>Backend:</b>	FastAPI, SQLAlchemy, ASP.NET Core, Entity Framework, gRPC
<b>Frontend:</b>	Angular, Tailwind CSS, React.js, HTML5, CSS3
<b>DevOps / Cloud:</b>	Azure, Docker, Poetry, Deployment Actions, Vercel, CI/CD Pipelines
<b>Automation SCADA:</b>	Studio 5000, TwinCAT, TIA Portal, Ignition, Indusoft
<b>Methodologies:</b>	OOP, Agile/Scrum, FMEA, SCADA Design, UL 508A, Project Management

## Education

Ranken Technical College - Associate Degree in Electrical Control Systems

December 2014

## Volunteer

Offensive/Defensive Line Football Coach - Titans of Troy, IL