

Nathan Kocher

Freelance Controls Engineer

West Chester, PA - Email me on Indeed: [indeed.com/r/Nathan-Kocher/295898178c53a7ec](https://www.indeed.com/r/Nathan-Kocher/295898178c53a7ec)

- * Experienced Project Controls Engineer with diverse technical experience at a national laboratory, an OEM, and a systems integration firm.
- * Experience in estimation, design, procurement, programming, project management, and commissioning of control systems and their instrumentation.
- * Proficient in Programmable Logic Controllers (PLC), HMI, SCADA, embedded systems, communication networks, and commercial systems integration.

WORK EXPERIENCE

Electrical Engineer

Veltek Associates Inc. - Malvern, PA - March 2013 to Present

Consultant

Absolute Control Engineering - West Chester, PA - January 2013 to Present

PLC, HMI, SCADA programming, control panel design, documentation, consulting, and project management.

PROJECT ENGINEER

The Roberts Filter Group - Media, PA - February 2012 to Present

Responsible for developing PLC-based process control systems for water and wastewater treatment systems. Allen-Bradley, Siemens, Schneider Electric PLCs. Programming on A-B, Siemens, Schneider, and Red Lion hardware.

- * Assists with control system design, control panel design, P&ID design, and revising design through the submittal process.
- * Collaborates with Process Engineers and Consulting Engineers to create a functional description of the control system's operation and, as head programmer of PLC and HMI devices, implement control strategy via PLC, HMI, and single-loop PID controllers (Yokogawa and Red Lion).
- * Provides guidance to electricians on panel wiring and instrumentation wiring. Completes factory acceptance testing (FAT) before instrumentation and control panel are shipped.
- * In collaboration with Electrical Contractors and Systems Integrators, perform system commissioning by performing I/O checks, instrumentation setup and calibration, ensuring all chemical pumps, water pumps, air blowers, and control valves are operational and that the process is optimized.
- * Perform field service of legacy control systems at client's sites throughout the country.

Controls Engineer

CIM Automation - M.C. Dean, Inc - Richmond, VA - May 2011 to February 2012

Integrated control systems by programming SCADA (WinCC) and PLC software.

- * Collaborated with senior engineers on design and commissioning of control systems at wastewater treatment facilities.

Electrical Engineer Intern, May

Bechtel Marine Propulsion Corporation - West Mifflin, PA - May 2010 to August 2010

Bettis Atomic Power Laboratory, West Mifflin, PA

- * Performed a feasibility study of an experimental networking protocol for use in a real-time, safety-critical instrumentation and control system.

- * Implemented a redundant, mixed-traffic network (safety-critical data and other traffic), developed testing methods, and performed a network analysis using networking probes and software.

- * Developed MATLAB scripts for post-processing packet data and to calculate network parameters (delay through switch, data-to-clock jitter) and to quantify data loss at varied switch loading levels.

- * Evaluated the network performance of the Time-triggered Ethernet protocol for use in a real-time, safety-critical instrumentation and control system.

- * Implemented a redundant, mixed-traffic network (safety-critical data and other traffic), developed testing methods, and performed a network analysis using Network Instruments' Gigastor probe.

- * Tested system response as a function of switch capacity by generating UDP background traffic.

- * Developed MATLAB scripts for post-processing packet data and to calculate network parameters (delay through switch, data-to-clock jitter) and to quantify data loss at varied switch loading levels.

ELECTRICAL ENGINEER INTERN

Bechtel Marine Propulsion - May 2009 to August 2009

Generated functional requirements of an electric plant control system.

- * Procured, assembled, networked, programmed, field-wired, and tested a PLC-based control panel capable of controlling circuit breaker operation and the monitoring of bus voltage.

- * Demonstrated small-scale control panel to show feasibility of controlling testing within the electric plant.

DISTRIBUTION ENGINEER INTERN

FirstEnergy Corporation - York, PA - May 2008 to August 2008

Performed circuit loading studies and provided customer service.

HARDWARE AND SOFTWARE EXPERIENCE

- * PLCs and OITs: Allen-Bradley (A-B) CompactLogix, ControlLogix, MicroLogix, Panelview, Siemens S7-300/1200, Schneider Electric, Modicon

- * PLC Software: RSLogix5000/500/5, RSView, FactoryTalk, STEP-7, Unity, ProWorX, Pro Face, TISOFT, Crimson, Wonderware InTouch, Citech

- * MS Office Suite, Windows, Linux, OS X, Programming in C, C++, VB, C#, Java and Python

EDUCATION

Bachelor of Science in Electrical Engineering

The Pennsylvania State University - University Park, PA

Bachelor of Science in Physics

West Chester University - West Chester, PA

SKILLS

PLC, HMI, SCADA, Strategy, Instrumentation, Implementation, Project Management