

CHRISTOPHER HAINZL

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PROFILE

Computer science graduate & systems integrator specializing in the convergence of industrial automation and high-level software development. Proven expertise in PLC programming (Allen-Bradley, Phoenix Contact) and HMI design (LabVIEW), with a focus on creating data-driven control solutions. Adept at implementing Modbus TCP communication, Structured Text algorithms, and IIoT-ready architectures. Combines strong mathematical and analytical skills with a software engineering mindset to optimize system reliability and real-time data visualization.

EDUCATION

Ramapo College of New Jersey, Mahwah, NJ, *January 2026*

School of Theoretical and Applied Science

Master of Science in Data Science

GPA: 3.9 / 4.0

Relevant Courses: Advanced Database & Big Data Systems, Python for Data Science, Advanced Mathematical Modeling, Ethics in Data & Computing, Cryptography

Ramapo College of New Jersey, Mahwah, NJ, *June 2024*

School of Theoretical and Applied Science

Bachelor of Science in Computer Science

GPA: 3.8 / 4.0

Honors and Awards: Graduated Magna Cum Laude, Dean's List (x4)

Relevant Courses: Web Application Development, Artificial Intelligence, Database Design, Cyber Security, Machine Learning, Data Analytics in Python, Applied Statistics, Linear Algebra, Big Data Programming

Sussex County Community College, Newton, NJ, *May 2022*

Associate of Science in Computer Science

GPA: 3.8 / 4.0

Honors and Awards: Dean's List (x4), Phi Theta Kappa Honor Society, SCCC Excellence Award - Mathematics

Relevant Courses: Database Management Systems, Discrete Mathematics, Data Structures

TECHNICAL SKILLS

Languages: Python, SQL, Java, C++, R, JavaScript, HTML, CSS, Structured Text

Applications: Microsoft Power Automate, Microsoft Power BI, Google Cloud, Visual Studio, GitHub, LabVIEW, PLCnext Engineer

Frameworks: Pug, Bootstrap

PROJECTS

Automated Parking Lot Control System Simulation, Summer 2025

- Developed a PLC-based control system simulation for a 5-space parking lot, applying core industrial automation and discrete control principles.
- Implemented logic using Normally Closed (NC) contacts for parking space availability and Normally Open (NO) contacts for vehicle entrance detection.
- Programmed a Normally Open coil to activate the gate motor, demonstrating control over discrete outputs based on combined input conditions.
- Utilized OpenPLC Editor for designing, testing, and debugging control logic, gaining hands-on experience with PLC simulation environments.

Senior Project, Spring 2024

- Coded, tested, and debugged more than 100 of the functions from Python's NumPy library in C++.
- Designed functions for performing tasks including but not limited to linear algebra, statistics, trigonometry, and array creation/manipulation from scratch.
- Authored an 18-page technical paper detailing project installation instructions, UML diagrams for developed classes, and what data & file structures were utilized.

WORK EXPERIENCE

ASTG, Newton, NJ, *July 2025 – February 2026*

PLC Programmer

- Leveraged PLCnext Engineer and Phoenix Contact controllers to implement IIoT-ready control schemes, facilitating secure data exchange between field devices and enterprise networks.
- Programmed and tested Allen-Bradley ControlLogix systems, minimizing downtime for critical manufacturing processes.
- Developed modular, reusable code libraries using Structured Text for complex calculations and Function Block Diagrams for visual process flow, significantly improving system maintainability and code readability.
- Engineered a robust Modbus TCP communication interface between Phoenix Contact PLCs and a LabVIEW HMI, managing real-time data polling and synchronization for a set of 10 independent gas moisture analyzers.

Ramapo College of New Jersey, Mahwah, NJ, *January 2025 – June 2025*

STEM and Education Graduate Assistant

- Developed histograms and box plots of teacher turnover rates and student dropout rates in high-needs school districts.
- Presented findings to Teacher Education Department and explained results of data analysis.
- Generated a map showcasing where the high-needs school districts in New Jersey are located.
- Employed time management and multitasking skills to schedule individual student appointments and team meetings.

Pfizer, Remote, *May 2023 - August 2023*

Process and Standards Support

- Built and tested Microsoft Power Automate flows that employed SQL queries to automate value extraction from large clinical data sets.
- Constructed visualizations of clinical data trends using a combination of R and Microsoft Power BI.
- Extracted information from Pfizer's Trial Master File (TMF) and Operational Data Report (ODR) databases to help optimize risk-based monitoring (RBM) compliance.
- Coordinated with colleagues to ensure that internal and Contract Research Organization (CRO) reports were completed on time.

Hainzl Technology Solutions, LLC, Vernon, NJ

Owner

- Provide website development & administration, data analysis, database administration, and technical system support services to small businesses throughout Sussex County.

Recent Client Example:

Peak Power Systems, Middletown, NY

Website Developer / Consultant

- Collaborated with the head of Peak Power Systems to define the scope of a new website effectively showcasing Generac products.
- Designed and developed a professional, responsive 4-page website using Pug and Bootstrap to ensure optimal user experience across devices.
- Implemented a dynamic careers page powered by a MongoDB server running in JavaScript.