THOMAS VERIGIN

CIVIL ENGINEER | FIELD TECHNICIAN | BUILDING SYSTEMS

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SUMMARY

Civil engineering professional with hands-on field experience in infrastructure systems, low-voltage electrical installations, and controls-adjacent automation. Proven ability to interpret technical drawings, troubleshoot complex systems, document field work, and communicate effectively with clients and project teams. Self-driven learner with practical experience programming and commissioning ESP32-based control systems, configuring networked devices, and building automation workflows — eager to apply this technical foundation in a building automation and DDC systems environment.

WORK EXPERIENCE

Field Engineer / Estimating

Quattro Constructors | September 2025 - Present (9 months)

• Performed quantity takeoffs and scope analysis for underground electrical infrastructure including BC Hydro ductbanks, conduit systems, vaults, and civil drainage — developing deep familiarity with electrical distribution systems and their installation requirements.
• Analyzed drawings, specifications, and tender documents to identify scope requirements, design gaps, and technical risks across complex infrastructure projects.
• Coordinated with suppliers and trade contractors on technical pricing, including electrical, mechanical, and civil scopes.
• Designed and implemented Azure-based and Python scripting solutions to automate data workflows — demonstrating strong initiative in applying programming to solve real operational problems.
• Proficient with Excel, Bluebeam, Heavybid, and VS Code in a fast-paced, deadline-driven environment.

Field Engineer

Keller Foundations | Contractor | September 2024 - August 2025 (1 Year)

• Executed hands-on field engineering across multiple active construction sites, independently managing technical documentation, equipment monitoring, and compliance verification.
• Interpreted technical drawings and geotechnical reports to guide field operations — developed strong ability to read and apply complex technical documentation under field conditions.
• Monitored and recorded equipment performance data, identifying anomalies and coordinating corrective actions with operators and project managers.
• Used AutoCAD to review and annotate site drawings; maintained detailed as-built records and field reports for internal and client distribution.
• Built and maintained Excel-based tracking tools for production logs, equipment data, and testing records.

Personal Projects

ESP32 / WLED LED Matrix Controller

• Designed and built a 16x16 WS2812B LED matrix using an ESP32 microcontroller running WLED firmware.
• Configured GPIO wiring, power supply, and network connectivity; set up automated scheduling, capacitive touch sensor, and microphone-triggered lighting effects.
• Troubleshot low-voltage electrical issues and device commissioning — directly analogous to BAS sensor and controls work.

Adafruit Temperature Sensor & Ventilation Monitor

• Wired and programmed an Adafruit temperature/humidity sensor to monitor indoor air quality in an enclosed space housing the 3D printer.
• Configured automated ventilation control logic based on sensor thresholds — applying the same feedback-loop principles used in HVAC and BAS systems.
• Demonstrated practical understanding of environmental sensing, control logic, and safety interlocks.

3D Printing — Bambu Lab P1S

• Operated and maintained a multi-material FDM 3D printer, managing print profiles, filament settings, and AMS configurations.
• Designed and printed custom enclosures, mounts, and functional parts — including hardware modifications to improve printer ventilation and sealing.
• Applied understanding of VOC/UFP mitigation and exhaust ducting relevant to enclosed mechanical systems.

Internships

Assistant Engineer

Binnie | Civil Engineering Consultant | May 2022 - August 2022 (4 months)

• Conducted site inspections across civil infrastructure installations including asphalt paving, waterline installation, excavation, and surface works — ensuring compliance with drawings and specifications.
• Used AutoCAD to edit and organize drawing details.

Assistant Technical Engineer

AFDE Partnership | Co-op | September 2021 - April 2022 (8 months)

• Supported the Technical Team at Site C Dam with construction oversight, quality control, and technical documentation for geotechnical and civil works.

EDUCATION

University of Victoria
GPA 6.16 (9 point scale) ~ B+ ~3.2 (4 point scale)
Bachelors of Civil Engineering | 2019 - 2024

Pitzer College
Liberal Arts and Sciences / Liberal Studies | 2017 - 2018
Activities and Societies: Varsity Golf

QUALIFICATIONS

Class 5 Drivers License (Full Passenger Car License)
Pleasure Craft Operating License

Technical Skills
Low-voltage electrical wiring and systems integration
ESP32 microcontroller programming (C++/Arduino framework)
Network configuration, IP addressing, and device commissioning
WLED firmware setup, GPIO sensor integration, and automated scheduling
Python scripting and workflow automation (Azure Functions, REST APIs)
AutoCAD, Bluebeam, Excel, VS Code

AI & Automation Certifications (2026)
Introduction to Model Context Protocol — Anthropic
Multi AI Agent Systems with crewAI — DeepLearning.AI
Google AI Specialization — Google

Other
Avid Cyclist (Velodrome, Endurance, Crit races)
Play Rec league soccer
Retired Competitive Golfer