Vaughn **Whitwell-Stier**

Junior Software Developer

✉ Vaughn@vaughnws.ca | 📱 2048807818 | 📍 Winnipeg, MB | 🔗 vaughnws.ca

Skills

Tools and Frameworks:

HTML, React, CSS, JavaScript
Python, Java, PostgreSQL, Docker, Git
AWS, Vercel, Oauth, Supabase, N8N, Ollama

Experience

Rotor Village Inc
Winkler, MB

UNMANNED AERIAL SYSTEM PRODUCT DEVELOPER
2023 – Present

- Researched and developed low-cost SUAS (Small Unmanned Aerial system) platforms, reducing per-unit costs by 30% while maintaining 95%+ flight performance reliability
- Developed end-to-end ground control infrastructure featuring mission planning station with dual monitors and lightweight 16-foot cross-pattern antenna array, enabling rapid deployment and 185km+ operational range
- Delivered custom SUAS configurations from initial client contact to flight-ready systems within 7-day lead times, systematically resolving UART conflicts, RF interference, and component compatibility issues across unique avionics configurations
- Led systematic debugging of autopilot, power distribution, and communication subsystems, decreasing flight platform failures by 15%
- Fulfilled 9+ fixed-price contracts for custom SUAS platforms, meeting or exceeding client requirements and delivering an average of 10% below budget

TECHNICAL CUSTOMER SERVICE REP.
2021-2023

- Diagnosed hundreds of complex hardware and software issues across autopilot, power delivery, GPS, telemetry systems, and much more achieving over 85% first-contact resolution rate
- Translated technical setup procedures and wiring schematics for customers ranging from hobbyists to commercial operators, reducing related support tickets by 15% through visual guides and written instructions
- Built internal automation tools using Python and N8N, integrating payroll, product formatting, and data conversion systems, eliminating 5+ hours of manual work weekly and reducing error rates by 10%.
- Developed standardized response templates and diagnostic workflows for common hardware failures and logistics issues, enabling near instant resolution of 10% of support tickets

Education

Red River College
Winnipeg, MB

DIPLOMA IN FULL STACK WEB DEVELOPMENT
September 2024 – March 2026

- GPA: 4.5

Projects

Autonomous AI DevOps Hub
React, Docker, MCP, AI/ML, N8N, Bash

- Engineered portable AI-powered development platform on Raspberry Pi 4 with 8 containerized services, custom React dashboard, and 10-hour autonomous battery operation
- Designed shock-resistant housing with 3D-printed components, hardware monitoring (2004A LCD, MAX7219 LED matrix), and intelligent network switching to iPhone hotspot
- Implemented Model Context Protocol (MCP) server enabling seamless workflow automation and AI-driven system administration across environments
- Built an autonomous monitoring system using N8N and Claude AI with 5-minute health check intervals, reducing problem resolution time by 5 minutes per solution through automated diagnosis
- Created intelligent documentation pipeline with N8N workflows and local Qwen2.5 model, saving over 2 hours per execution through automated code review and knowledge base generation

Interactive AI Ethics Learning Platform

React, REST, Vercel, Supabase, OAuth, Openrouter, IndexTTS2
eduaitools.ca

- React-based AI educational platform with OAuth authentication, Supabase backend, and OpenRouter API integration for teaching ethical AI usage to students and educators
- Developed 6 tutorial videos with AI-generated voiceovers using IndexTTS2, covering LLM best practices and ethical AI implementation
- Built interactive tools for email assistance, note summarization, and test question generation using the Llama 4 Maverick model
- Implemented user analytics to track engagement with tutorials and AI tools, storing data in Supabase database
- Deployed on Vercel with automatic redeployment on Git commits, enabling continuous integration and development

Long-Range Multi-Frequency Drone Command System

Systems Integration, RF Design, MAVLink, WinTAK, QGroundControl

- Designed and built portable ground control station with dual monitors, integrating WinTAK, QGC, and Mission Planner software on Windows-based i3 system
- Engineered self-powered 16-foot multi-frequency antenna array (915MHz, 1.3GHz, 2.4GHz, 5.8GHz) with dual connectivity options (Bluetooth/RJ45)
- Achieved extended operational range of 185km with antenna integration and 60km standalone capability through optimized RF design
- Implemented MAVLink protocol for bidirectional telemetry, analog and digital video receivers for real-time video reception and hall effect gimbal controls for single operator use
- Integrated battery management system with charging and balancing capabilities, eliminating need for external chargers

Portfolio Site

HTML, CSS, JavaScript, GitHub API, Google-Maps API
vaughnws.ca

- Built responsive full-stack portfolio website with dynamic theming, live GitHub activity integration, and interactive contact form using vanilla JavaScript
- Integrated real-time GitHub API feed displaying commit activity and project updates, showcasing technical projects and development workflow
- Demonstrates proficiency in modern web development fundamentals and basic API integration without framework dependencies, showcasing clean code architecture and performance optimization