

# Samuel Dillow

Senior engineer for practical systems.

samuel@samueldillow.com | samueldillow.com/resume | github.com/tarwich

I help small teams ship practical software, AI workflows, SaaS features, automation, and infrastructure fixes without needing a full-time hire.

Most useful when the work crosses product code, backend systems, hosting, and real operational constraints.

## Core Skills

---

|                                  |                                                                                                                                                  |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Languages</b>                 | TypeScript, JavaScript, C#, C++, Swift, Objective-C, Java, Python                                                                                |
| <b>Frontend</b>                  | React, Next.js, Angular, WebGL                                                                                                                   |
| <b>Backend &amp; APIs</b>        | Node.js, .NET, PostgreSQL, API Design, Distributed Systems                                                                                       |
| <b>Cloud &amp; DevOps</b>        | AWS, Docker, Kubernetes, CI/CD, Observability, Network Monitoring, Performance Metrics                                                           |
| <b>AI</b>                        | Generative AI, LangChain, Computer Vision, AI-assisted Software Development                                                                      |
| <b>Security</b>                  | Cybersecurity, OAuth2, JSON Web Token (JWT)                                                                                                      |
| <b>Leadership &amp; Delivery</b> | Software Architecture, Technical Leadership, Team Leadership, Mentoring, Product Engineering, Full-Stack Development, SaaS, Operational Software |

## Current Work

---

### ENG Aviation

Senior Software Engineer | 2025 - Present

Build the AI and operations platform behind a private-aviation SaaS, focused on pilot safety, flight scheduling, and the regulatory workflows that surround them.

- Built the pilot training and currency system end-to-end. It alerts flight operations when training is due or when pilots need additional flights to stay current, and it shows coordinators which pilots will actually be available, and still qualified, at the time of a planned trip.
- Built an AI-augmented trip-request pipeline on LangChain that reads inbound customer emails, checks pilot and aircraft availability, drafts quotes, and routes them to the flight operations center for review before they go to customers.
- Made the assistant useful on long conversations and grounded it in each customer's own data, so answers stay accurate as conversations grow.
- Built the eSecure export that submits passenger lists for TSA screening and tracks passenger clearance, saving flight coordinators 30+ hours per year that had been spent manually formatting files.
- Used LLM vision to read cockpit and flight-log photos, then prefill most of the flight log for pilots.
- Delivered scheduling and pricing features, including drag-and-drop reordering of trip legs and pricing, schedule-conflict detection, and a demo-data system used for sales and conferences.

Skills: TypeScript, JavaScript, React, Next.js, Node.js, PostgreSQL, AWS, Docker, CI/CD, JSON Web Token (JWT), LangChain, Generative AI, AI-assisted Software Development, API Design, Full-Stack Development, SaaS, Performance Metrics, Software Architecture

### SammyD LLC

Owner and Principal Developer | 2020 - Present

Independent consultancy delivering custom software and cybersecurity training platforms.

- Designed and shipped a TEA-compliant cybersecurity curriculum platform delivered to multiple Texas high schools, with interactive content, video integration, and automated assessment.
- Built browser-accessible cloud lab environments on AWS where students can safely study malware in isolated networks.
- Created hands-on training environments for threat analysis with strong safety boundaries between students and the systems they study.
- Contracted with Coherent Cyber to build an e-learning platform for cybersecurity instruction.

Skills: SaaS, AWS, Cloud Infrastructure, Full-Stack Development, Cybersecurity, education

## Earlier Experience

---

### CBWE Communications

Network Engineer | 2023 - 2025

Operate high-capacity wireless internet infrastructure and build internal tools that keep the network visible and stable.

- Deploy and maintain long-range wireless links across metropolitan distances, including links operating at up to 6 Gbps.
- Manage backbone infrastructure with network monitoring, traffic filtering, and security operations against a 99.99% uptime target.
- Built a full network monitoring system in React, Next.js, and PostgreSQL that surfaces node health and performance metrics, with predictive analytics for early detection of network degradation and service interruptions.
- Hold current Tower Climber and Rescue certifications for elevated infrastructure maintenance and equipment installations.

Skills: TypeScript, JavaScript, React, Next.js, Node.js, PostgreSQL, Network Monitoring, Observability, Performance Metrics, Full-Stack Development, Cybersecurity, network, hosting

### Botisimo / OpTic Gaming

Software Engineer | 2021 - 2023

Built the multi-platform streaming, engagement, and aggregated-ad-revenue systems behind Botisimo, a creator tools platform for live streamers that was acquired by OpTic Gaming in 2023.

- Built the multi-platform streaming engine that let creators broadcast simultaneously to Twitch, YouTube, Facebook, Discord, and Trovo, with a chat relay so viewers on every platform could see and respond to each other in one shared conversation.
- Built giveaways, raffles, polls, and viewer rewards that worked across every connected platform, plus a rules engine for schedules, timers, auto-bans, and auto-replies, with AI-driven bot responses added as LLMs matured.
- Built the analytics and ad-targeting work behind an aggregated-audience ad product that pooled viewers across thousands of small streams into a single buy, giving creators who were too small to sell their own ads a real share of ad revenue.
- Built customer analytics and marketing data pipelines that informed product and growth decisions across the platform.

Skills: TypeScript, JavaScript, React, Node.js, PostgreSQL, AWS, Docker, CI/CD, OAuth2, JSON Web Token (JWT), Generative AI, API Design, Full-Stack Development, SaaS, Operational Software, Distributed Systems, Observability, Network Monitoring, Performance Metrics, Software Architecture, Technical Leadership, Streaming, Analytics

### LakePointe Church

Dallas Pastoral Care | 2021 - 2023

Served patients and families in Dallas hospitals through crisis care, grief support, and spiritual care coordination.

- Led an interfaith spiritual care team serving across multiple Dallas hospitals.
- Delivered end-of-life counseling, crisis intervention, and grief care for patients and families.

- Worked with medical staff to support a holistic care approach.
- Developed and implemented spiritual care protocols designed to serve diverse faith backgrounds.

Skills: care, leadership, faith, communication

## Focus Ministries / GoMethod

Software Engineer | 2018 - 2019

Built mission-trip management software with web tools and document automation that read paperwork into the system automatically.

- Built a mission-trip management system in Angular and .NET that streamlined the coordination of travel requirements, document tracking, and deadline management for team leaders.
- Built an automated document processing pipeline in React and .NET that scanned paper forms and used a mix of cloud AI services and human reviewers to digitize and categorize them, dramatically cutting manual data entry.
- Designed and integrated systems that significantly improved organizational efficiency in managing participant documentation and compliance requirements.

Skills: Angular, React, C#, .NET, Full-Stack Development, API Design, OCR, AI, Computer Vision (CV/OCV)

## VoidRay / Vega Studio

Senior Technical Lead | 2015 - 2018

Led teams across pharmacy, security, forensic visualization, retail, and defense-facing software projects.

- Led development of a pharmacy management system that automated prescription processing, insurance verification, billing, and inventory.
- Built a vulnerability assessment dashboard for the U.S. Department of Defense to monitor and track software security risks across the organization.
- Built a geographic threat-intelligence platform for the Department of Defense that used natural-language analysis to map and visualize threats from internet traffic patterns.
- Built a network traffic visualization tool for AWS environments that helped security teams quickly spot threats and data leakage.
- Built a forensic analysis tool that used 3D web visualization to surface organizational communication patterns for fraud investigations and risk management.
- Partnered with Infosight to develop memory-based threat detection software.
- Designed and built an omnichannel retail platform integrating online and brick-and-mortar inventory management.
- Established a CI/CD pipeline with automated testing and a structured QA environment, enabling reliable weekly releases.

Skills: TypeScript, JavaScript, React, Node.js, PostgreSQL, AWS, Docker, CI/CD, JSON Web Token (JWT), Jira, API Design, Full-Stack Development, SaaS, Operational Software, Distributed Systems, Observability, Network Monitoring, Performance Metrics, Cybersecurity, Software Architecture, Technical Leadership, Team Leadership, Mentoring, Product Engineering, WebGL, DoD

## KloudNation

Software Developer | 2014 - 2015

Built large-scale web scraping, vendor analytics, and mobile augmented-reality tools.

- Built an auto-scaling web scraping system that aggregated and compared auto-parts pricing across NAPA, AutoZone, O'Reilly, and Firestone.
- Built a web-based analytics platform that consolidated vendor datasets into comparative pricing reports.
- Built an iOS augmented-reality app that combined Bluetooth-beacon positioning with computer-vision recognition for retail compliance monitoring and display verification.
- Brought the team onto Swift through hands-on training and pairing, so more engineers could ship iOS features independently.

Skills: TypeScript, JavaScript, Node.js, Python, React, PostgreSQL, AWS, Kubernetes, Docker, CI/CD, JSON Web Token (JWT), Full-Stack Development, Distributed Systems, Swift, Objective-C, iOS, Computer Vision (CV/OCV), augmented reality, web scraping, analytics, Mentoring

## VoidRay Co

Senior Software Architect | 2012 - 2014

Built SaaS products across healthcare, analytics, e-commerce migration, financial automation, and forensic visualization.

- Built a HIPAA-compliant SaaS platform that gave physicians remote access to their office database, with detailed profitability and geographic analysis to support data-driven decisions.
- Built a web analytics SaaS platform that helped marketers evaluate campaign performance and optimize advertising spend.
- Built a migration tool that moved customers from WooCommerce to Shopify while preserving complete transaction history.
- Built an automated 401k portfolio analysis tool that pulled data from multiple banking platforms to support portfolio management decisions.
- Partnered with BrainSpace to build a computer forensics visualization platform for network data exploration and suspicious-activity detection.

Skills: SaaS, Software Architecture, Full-Stack Development, API Design, healthcare, HIPAA, analytics, e-commerce, fintech

## Odyssey Communications Group

Software Developer | 2009 - 2011

Built scoreboard, video streaming, data migration, and server stability systems for customer-facing operations.

- Built a digital scoreboard server and client system that broadcast real-time game information across the network for stadium customers.
- Diagnosed and resolved a critical server stability issue that had been costing the team about eight hours of productivity per week.
- Migrated 600 customer accounts to new server infrastructure with only seven minutes of total downtime, preserving data integrity and improving scalability.
- Built and maintained a colocated video streaming server with transcoding and full media management.

Skills: streaming, infrastructure, migration

## Symfono Corporation

Software Development Lead | 2009 - 2012

Led a small engineering and design team building early mobile augmented-reality apps, iOS prototypes, real-time data streaming, and analytics products.

- Led a cross-functional team of four engineers and designers to build an augmented-reality social app that let users visualize their friends and configurable content placed in the real world.
- Implemented PTAM (Parallel Tracking and Mapping) to bring augmented reality to single-threaded mobile devices before hardware widely supported it.
- Built a streaming data compression algorithm that allowed real-time binary data to flow into dynamic C++ applications.
- Built a server-synchronization system capable of mirroring data across diverse server architectures.
- Architected an application server with role-based access control, device-specific protocol versioning, and secure scenegraph data streaming to iOS devices.
- Built an iOS GUI prototype that accelerated iPhone interface development for the team.
- Built GameView, a real-time soccer analytics platform that tracked plays and player statistics with playbook-style visualizations for coaches.

Skills: Technical Leadership, Team Leadership, Software Architecture, augmented reality, iOS, Objective-C, C++, streaming

## Pursuant Group

Software Developer | 2008 - 2009

Contributed to a flagship interactive web application and helped spread development practices across a large engineering team.

- Worked with a 15-engineer team to design and build a flagship interactive web application for a social networking platform.
- Self-taught Flex and PureMVC, then shared what I learned with the team, saving the company an estimated \$6,000 in training costs.
- Helped strengthen cross-functional team dynamics by emphasizing clearer communication and collaborative work practices.

Skills: social, teaching, rich web apps

## United States Air Force

Communications Project Manager | 2002 - 2008

Managed mission-critical communications systems, airfield security, aircraft monitoring, and technical instruction during U.S. Air Force service.

- Trained 600+ personnel on Oracle-based telecommunications management software.
- Stood up a new airfield security system after three previous implementation attempts had failed.
- Taught computer programming classes in C++ and Java to fellow service members.
- Ran mission-critical projects that integrated aircraft monitoring systems with the base network.
- Maintained communications infrastructure records that documented network topology and 3D geospatial layouts, including detailed internal facility wiring.
- Designed an IPv6-compatible network architecture for converged voice and data, preparing the base for Voice-over-IP.
- Upgraded the Telecommunications Management Server to support a network spanning more than 27,000 phones and computer systems.
- Certified as a CPR Instructor with additional expertise in field triage, first aid, biological defense, and explosive ordnance management.
- Delivered specialized training in combat preparation, weapons systems use and maintenance, and tactical operations.

Skills: military, communications, security, teaching

## Cantex Management

Information Technology Specialist | 2000 - 2008

Administered IT infrastructure, surveillance systems, and training tools across multi-state retail operations.

- Administered Microsoft Windows Server 2003 network infrastructure supporting retail locations across seven states.
- Designed and deployed a networked video surveillance system across multi-state retail stores to improve security and monitoring.
- Built a web-based interactive training platform that let employees access professional development resources remotely.
- Optimized IT resources to support business operations with efficient server management and scalable solutions.

Skills: IT, retail, Windows Server, surveillance

## Nortel Networks

Training and Documentation Intern | 1999 - 2000

Automated document conversion, built internal tools, and supported print and help-desk operations.

- Built an automated document conversion utility that eliminated more than 200 hours of manual labor.
- Built internal systems including an issue-tracking platform and a centralized training-room reservation app.
- Modernized technical documentation by transforming legacy training manuals from PostScript into structured SGML, ensuring consistent formatting and accessibility.
- Trained the technical team in the new documentation workflow, improving department-wide capabilities.
- Built a web-based Trouble Management System integrated with Remedy Software to decentralize help-desk operations.
- Maintained the industrial printing infrastructure that supported mission-critical documentation operations.

Skills: documentation, internal tools, intern