

Karl Swanson

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ABOUT

As a DevOps Engineer at Clair Global, I design, build, and support technology solutions for live productions and temporary networks. I enjoy learning new technologies and working at the intersection of audio, networking, and engineering.

KEY TECHNOLOGIES & TOOLS

- Programming Languages & Frameworks - Python, Go, JavaScript/TypeScript, Node.js, C++, Django, NumPy, D3, Vue
- Media - FFmpeg, GStreamer, MediaMTX, Janus, LiquidSoap, WebRTC, Dante, AES67, NDI, and SRT
- Infrastructure & Deployment - Docker, GitLab CI/CD, Balena, Portainer, Ansible, Salt, and Jamf
- Networking - FortiGate, Meraki, Catalyst, OpenWRT, ZeroTier, and WireGuard

EXPERIENCE

DevOps Engineer

2020 - Present

Clair Global - Lititz, PA

- Full-Stack Development - Build public facing WebRTC based communications systems and internal web applications.
- Embedded Systems Development - Develop software for microcontroller and linux based devices.
- Audio Systems - Architect and develop solutions to capture, analyze, and visualize data from large line-array systems.
- Automation & Tooling - Package and deploy software to on-premise, AWS, and remote systems.
- Network Support - Provide remote engineering support for events, emergency announce systems, and Production IT racks.
- On-Site Deployment - Deploy and operate audio, video, and networking hardware for broadcast, corporate events, and music festivals.
- Cross-Departmental Technical Support – Serve as a technical resource for various departments.

Network Administrator

2012 - 2020

The Salvation Army - Chicago, IL

- Maintain campus wired and wireless networks.
- Manage VMware infrastructure and implement new backup systems.
- Design and implement audio and video upgrades for campus facilities.
- Maintain CATV, access control, and digital signage systems.
- Resolve AV, network, and iOS helpdesk issues.

Live Sound Engineer

2007 - 2020

Freelance

- Mix FOH and monitors for events in USA and Canada.
- Design and setup robust temporary production networks for Dante and video streaming.
- Train and manage volunteers to operate audio and video systems.
- Coordinate wireless microphone and IEM equipment for installs and events.

PROJECTS

Micboard

2018 - Present

- Create JavaScript web application for monitoring wireless devices.
- Develop Python software to communicate with Shure RF devices.
- Simplify app distribution and installation via Docker and Electron.
- Write installation and developer documentation.
- Implement new features and fixes based on user feedback.
- Provide technical support via email and GitHub ticket systems.

EDUCATION

University of Illinois at Chicago

2014

B.S. Computer Engineering