

Byrapaka Arun Samuel Charis

Senior Analyst | XR / Virtual Production Technology | Broadcast, Streaming & Network Infrastructure

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PROFESSIONAL SUMMARY

Currently a Senior Analyst at Deloitte, bringing 15+ years of overall experience across live broadcast, streaming infrastructure, Linux systems, networking, web platforms, and on-site production support, including recent focused XR / virtual production experience with Unreal Engine for green screen and LED-volume workflows, Disguise VX/RX media servers, RenderStream, ROE LED panels, Brompton Tessera processors, NDI/IP video, RTMP/SRT streaming and contribution workflows, Allen & Heath SQ5 audio workflows, Haivision Makito encoder/decoder workflows, and Stype RedSpy 3.0 camera tracking. Supporting XR / Media Technology studio operations, troubleshooting real-time production systems, coordinating with creative and technical stakeholders, and documenting SOPs, runbooks, and issue-resolution workflows for reliable creative production environments.

CORE COMPETENCIES

XR / Broadcast Technology Operations: Live broadcast operations, XR studio support, virtual production workflows, green screen and LED-volume workflows, live/recorded production support

Studio Infrastructure: Disguise VX/VX2 media servers, RX render nodes, ROE LED panels, Brompton Tessera processors, NDI/SDI, RTMP/SRT workflows, compute/network troubleshooting

Systems & Networking: Ubuntu, CentOS, Windows, macOS, TCP/IP, VLAN/switching, DNS/SSL, Nginx/Apache, Docker, VMware/VirtualBox, AWS EC2/Route 53, DigitalOcean

Development & Support Automation: HTML, CSS, JavaScript, PHP, Node.js, MySQL, Git, Python basics, API/web services, workflow automation awareness

Real-Time Production Tools: Unreal Engine, Disguise Designer/RenderStream, Stype RedSpy 3.0 camera tracking, Blender set prototyping, real-time rendering support

AV/Broadcast Systems: Allen & Heath SQ5, Haivision Makito encoders/decoders, AJA/Blackmagic/Teradek encoders, Web Presenter, live streaming, Zoom/Teams contribution, audio/video sync

Operations & Support: Tier 2/Tier 3 escalation support, incident response participation, RCA documentation, QA checklists, SOP/runbook documentation, asset/deployment coordination

PROFESSIONAL EXPERIENCE

Senior Analyst | Deloitte USI

2022 - Present

Hyderabad, India

- Support and coordinate daily technology operations and onsite support for XR / virtual production studio environments used for creative learning, live broadcast, recorded content, and real-time visualization workflows.
- Operate, configure, and troubleshoot Unreal Engine workflows for green screen and LED-volume virtual production, including Disguise VX/VX2 media server operations, RX render node connectivity, RenderStream setup/validation, Stype RedSpy 3.0 camera tracking, RTMP/SRT contribution workflows, real-time scene playback, and output checks.
- Manage and troubleshoot studio infrastructure across ROE LED panels, Brompton Tessera processors, video signal paths, NDI/IP video workflows, production networks, and workstation connectivity to keep real-time production environments stable.
- Provide escalated hands-on support for complex issues across macOS, Windows, Ubuntu systems, AV equipment, network switches, audio/video sync, latency, stream stability, and real-time rendering.
- Coordinate with creative teams, production staff, AV engineers, vendors, and technology partners to diagnose issues quickly during rehearsals, live sessions, and time-sensitive production windows.
- Maintain documentation, SOPs, runbooks, risk review notes, network/device configuration references, operational handover materials, and repeat-issue mitigation steps.
- Managed end-to-end Third-Party Risk Management (TPRM) processes for new technology onboarding, coordinating with vendors and internal stakeholders to support review, documentation, approvals, and implementation readiness.
- Support online, hybrid, and remote contribution workflows using Zoom/Teams, NDI/SDI, RTMP/SRT protocols, Blackmagic Web Presenter-class workflows, Haivision Makito encoders/decoders for remote user feeds into virtual production environments, encoder paths, and latency-aware audio routing for remote presenters.
- Contribute to continuous improvement by identifying friction points, analyzing recurring technical problems, and recommending scalable process or architecture changes for creative technology operations.
- Support technical planning for latency measurement, production readiness checks, troubleshooting references, and creative workflow improvement.

Hyderabad, India

- Delivered and operated live streaming solutions for 5,000+ attendee recurring weekly events, including encoder setup, streaming health monitoring, and multi-platform publishing.
- Configured Teradek, AJA, and Blackmagic streaming encoders and implemented Nginx-based in-house RTMP/SRT streaming server workflows for testing, contribution, and multi-platform streaming.
- Administered Linux and cloud infrastructure including Ubuntu, Amazon Linux, AWS EC2, Route 53, LAMP/LEMP/MEAN stacks, SSL certificates, Nginx reverse proxies, firewall rules, port forwarding, Docker containers, backups, and production monitoring.
- Installed and configured network switches with failover using multiple ISPs; supported NAS technologies and implemented MinIO S3-compatible object storage for internal use.
- Collaborated on web, CRM, mobile app, API, and deployment initiatives using WordPress, Drupal, CiviCRM, HTML5, CSS3, JavaScript, PHP, MySQL, Ionic, and Xcode/Play Store release workflows.

Associate | Deloitte (Kelly Services India Pvt Ltd)

Jun-Aug 2018

Hyderabad, India

- Built interactive learning videos and internal showcase web experiences using HTML5, CSS3, Bootstrap, and JavaScript in collaboration with learning/design stakeholders.

SELECTED TECHNICAL PROJECTS & OPERATIONS HIGHLIGHTS

- XR / virtual production operations: supported Unreal Engine green screen and LED-volume workflows, Disguise workflows, Stype RedSpy 3.0 camera tracking, LED processor/signal-path readiness, RX render node connectivity, RenderStream checks, RTMP/SRT contribution paths, Haivision Makito encoder/decoder workflows, and real-time output validation for production environments.
- Live contribution and streaming: built practical workflows around NDI/SDI, RTMP/SRT protocols, encoder/decoder paths, Haivision Makito remote-feed contribution, Zoom/Teams remote presenters, streaming monitoring, audio/video sync, and latency-aware troubleshooting.
- Infrastructure reliability: configured Linux/Nginx/Docker/cloud services, SSL, reverse proxy, backup, monitoring, networking, ISP failover, and MinIO object storage in prior infrastructure environments.
- Documentation and self-service support: created technical notes, setup steps, troubleshooting references, and operating checklists that help teams resolve repeat issues faster.

INDEPENDENT TECHNICAL PROJECTS

- Built and maintained Raspberry Pi-based home lab services, including DNS-level ad blocking, media playback, and Nginx Proxy Manager for self-hosted application routing and SSL-enabled reverse proxy access.
- Deployed and customized OpenWrt on home network routers to extend VLAN segmentation, VPN access, firewall control, routing, and advanced network management beyond standard consumer firmware.
- Implemented and customized the open-source Shelf.nu Media Asset Management platform to support equipment tracking, check-in/check-out workflows, and equipment booking for production operations.
- Built a video review and collaboration platform inspired by Frame.io, including a web application and Adobe Premiere Pro extension for timecode-based comments, annotations, review notes, and video comparison workflows. GitHub: github.com/samarun/openreview-studio
- Explored cross-platform macOS workflows during Apple's PowerPC-to-Intel transition, gaining practical experience with hardware compatibility, boot configuration, drivers, and operating system troubleshooting.

EDUCATION

Bachelor of Engineering - Vasavi College of Engineering, Osmania University, Hyderabad, Telangana, India