James Park

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EXPERIENCE

Software Development Engineer
Amazon Web Services August 2022 - Present, Seattle, WA
- Designed and delivered high-scale, security-first features for AWS Systems Manager, serving a customer base of 100,000+ and leveraging Java, Golang, TypeScript, and AWS services (S3, CloudFormation, IAM, DynamoDB, EC2, CloudWatch, SQS, SNS).
- Led a 14-month project to build an AWS SSM microservice in 7 isolated ISO-certified regions, requiring close coordination with multiple engineers with ISO access and bringing AWS services in ISO regions up to parity with commercial regions.
- Built an additional UI component in the service's AWS web console for accessing the SSM Documents API (AWS SDK, TypeScript, React, Jest, Sinon).
- Optimized the AWS SSM Session Manager microservice's ability to stream to AWS CloudWatch Logs in real time (Golang).
- Reduced the AWS SSM Health microservice's region expansion time from 2 months to 2 weeks by creating comprehensive, standardized documentation that streamlined the process for 3 new regions.
- Transitioned the service's region expansion efforts from a manual process to an automated zero-touch approach, saving ~100 man-hours per new region (CloudFormation, IAM, internal CI/CD tools).

PROJECTS

Updated Digital Twin with High-Performance Radiance Field Pipeline - 2026
- Replaced COLMAP-based Structure-from-Motion step from previous iteration with GLOMAP (Global SfM) and LightGlue (Neural Feature Matching) to increase pose accuracy for challenging dataset.
- Integrated Physically-Plausible ISP (NVIDIA PPISP) into the training loop to dynamically correct auto-exposure and white-balance drift across large-scale image dataset.

Photorealistic Real-Time 3D Digital Twin - AWS, Nerfstudio, Unreal Engine - 2024
- Architected a cloud-native 3D reconstruction pipeline using Nerfstudio on AWS G5 instances to transform a 1.2k image unstructured dataset into a high-fidelity Gaussian Splat of a large mall interior.
- Integrated AWS S3 Mountpoint for data staging, enabling real-time streaming of multi-GB datasets to the training environment and reducing local storage overhead by 90%.
- Ported the digital twin into an interactive first-person walkthrough in Unreal Engine 5, using Luma AI plugin for real-time rendering of Gaussian splats through Niagara.

Volunteer - IEEEVR 2020 Research Conference - https://ieeevr.org/2020/ - March 2020 - March 2020
- Moderating and troubleshooting Mozilla Hubs (A-Frame) social spaces designed for presenting postgrad CS research focused on graphics, UX research for VR.

EDUCATION

MSc in Computer Science - Georgia Institute of Technology
BA in New Media and Digital Design - Fordham University

CERTIFICATIONS

Harvard CS50 Intro to Computer Science - edX
Certified completion of foundational Computer Science curriculum virtually taught from Harvard and Yale University.

SKILLS

Soft Skills: Technical Writing, Documentation/Wikis/Notes, Delivering On Time, Initiative, Planning, Cross-Team Communication
Technical: Javascript, TypeScript, React, Java, Golang, Ruby, AWS, CloudFormation, Infrastructure-as-Code(IaC)