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**WORK
EXPERIENCE**

Amazon:

July 2022 - Present

Software Development Engineer I — Alexa Communications

- Architected full deprecation of high-traffic SIP registration microservice, consolidating functionality while maintaining zero-downtime service across major carriers (Verizon, AT&T)
- Developed carrier calling integration systems using Ribbon SBC technologies (RAMP PSX, SBC Core) and proprietary Amazon APIs, enabling hands-free PSTN calls through Alexa devices independent of user phones
- Built device-level data extraction pipeline for Bluetooth state information across all Alexa devices, navigating complex microservices architecture to identify and extract profile-specific data for internal analytics agents
- Migrated microservice infrastructure from CloudFormation templates to CDK-based CI/CD pipeline, translating existing infrastructure-as-code into programmatic constructs to reduce developer effort
- Led 4-month British Telecom integration migration, designing selective testing infrastructure and coordinating complex 3-token handshake protocols with external telecommunications partners
- Authored 3 comprehensive Correction of Errors (COE) documents for critical production incidents, conducting cross-team root cause analysis and implementing preventive measures including thread-safe code review processes
- Applied deep systems thinking to complex distributed architectures, identifying threading bottlenecks and Redis scaling issues across multiple team codebases during critical incident resolution
- Managed operational excellence across 17 microservices with 120+ pipelines, optimizing alerting thresholds from 1-minute to trend-based monitoring, significantly reducing oncall noise and false-positive pages
- Established systematic operational improvements through continuous refinement of alerting configurations, proactively addressing 4-5 alarm optimizations per oncall rotation to enhance team productivity
- Demonstrated cross-functional technical leadership by coordinating with external carrier teams, translating complex technical concepts for non-technical stakeholders while managing multi-month integration timelines
- Designed comprehensive onboarding program covering microservices architectures and oncall procedures, mentoring new engineers on telecommunications infrastructure and third-party carrier integration patterns

Thorogood Associates:

December 2021 - June 2022

Data and Analytics Intern

- Developed data visualization solutions for enterprise clients, creating interactive PowerBI dashboards to derive actionable business insights from complex datasets
- Implemented dynamic report generation by embedding PowerBI reports in web applications using Angular, .NET, and MySQL, enabling real-time analytics based on user parameters
- Leveraged DAX (Data Analysis Expressions) to create advanced calculated measures and KPIs, improving data model performance and analytical capabilities

Zoho Corp:*May 2021 - October 2021**Software Engineering Intern — ZohoWriter Team*

- Engineered PDF processing pipeline using PDFBox in Java to extract document contents, styles, and formatting metadata, enabling seamless conversion to multiple document formats
- Designed JSON-based DOM generation system from extracted PDF data, creating standardized document object model for cross-format compatibility
- Implemented PDF form field extraction functionality to preserve interactive elements during document conversion, maintaining form usability across different output formats

Pan Asian Health Systems Pvt. Ltd:*July 2020 - August 2020**Software Development Intern*

- Collaborated with medical professionals to analyze requirements for acute pancreatitis diagnosis and treatment management system
- Developed full-stack medical application prototype using Python backend and React.js frontend with MongoDB database integration
- Built multi-user web platform using Node.js and Express framework, enabling collaborative healthcare management workflows for medical teams

EDUCATION**SSN College of Engineering**, Chennai, Tamil Nadu

BE, Computer Science and Engineering, 2018 - 2022

CGPA: 8.68

TECHNICAL SKILLS

- **Programming Languages:** Java, Python, JavaScript, C++, C
- **Cloud & Infrastructure:** AWS (CDK, CloudFormation, EC2, S3, Lambda), CI/CD Pipelines, Infrastructure-as-Code
- **Telecommunications:** SIP/SBC Technologies, Ribbon RAMP PSX, SBC Core, Kamailio, PSTN Integration
- **Backend Technologies:** Microservices Architecture, REST APIs, Distributed Systems, Redis, Threading/Concurrency
- **Web Technologies:** Node.js, Express, React.js, Angular, .NET
- **Databases:** MongoDB, MySQL, SQL
- **DevOps & Monitoring:** Operational Excellence, Alerting Systems, Oncall Management, Production Incident Response
- **Data & Analytics:** PowerBI, DAX, Data Visualization, ETL Pipelines, JSON Processing

PROJECTS**Robust Transfer Learning in Deep Reinforcement Learning:**

- Demonstrated effectiveness of adversarial attacks in improving knowledge transfer between Reinforcement Learning environments using Unity Game Engine
- Implemented observational and action adversarial attack mechanisms to enhance model robustness and transfer learning capabilities
- Created custom Racetrack Environment simulation for testing transfer learning methodologies across different RL scenarios