

# Uthresh Hariharakrishnan

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## PROFESSIONAL SUMMARY

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Software Engineer at Amazon Web Services with experience in large-scale distributed systems, data pipelines, and cloud automation. Experienced in building and scaling AWS services such as GuardDuty using Lambda, Fargate, and Spark/EMR to handle millions of events daily. Skilled in Java, Python, and AWS architecture, with a Master's degree in Data Science from Northeastern University.

## PROFESSIONAL EXPERIENCE

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**Amazon Web Services (AWS)** Oct 2022 – Present  
*Software Dev Engineer II, GuardDuty* Seattle, WA

- **Data Source Enabler:** Built AWS GuardDuty's automated security feature deployment system using Lambda, enabling administrators to configure protection across Organization member accounts with a single click.
- Engineered a high-scale solution managing 11K+ AWS Organizations (up to 50K members each), reducing deployment time from hours to minutes.
- **Coverage Reporter:** Spearheaded GuardDuty's Organization Coverage Reporter using AWS Fargate, providing delegated administrators visibility across 50K+ member accounts.
- Developed an ECS/Fargate-based system to process daily coverage metrics for 11K+ organizations, achieving sub-5-minute report generation.
- **Canary Testing:** Revamped AMS (account onboarding and offboarding) testing framework, adding automated tests for 12+ critical workflows spanning Organization integration, legacy systems, and multi-region deployments.
- Enhanced system reliability with 30+ new test cases covering hybrid setups, authorization, and account lifecycle management.
- **ETL Pipeline:** Created a high-performance Spark/EMR ETL pipeline processing 20M+ daily findings (800K/hour) with sub-minute latency for GuardDuty's Extended Threat Detection (re:Invent 2024 launch).
- **Usage Metrics:** Developed CloudWatch Metrics integration for 8M+ active accounts, publishing 240M+ metrics/hour at 99.9% reliability with hierarchical organization-level aggregation.

**Nokia Networks** Jul 2018 – Nov 2020  
*Software Engineer – 5G Core R&D* Bangalore, India

- Designed and implemented 5G SA Inter-gNB and NGAP-based handover procedures, improving handover success rate by 15% and ensuring full 3GPP compliance.
- Led the revamp of the System Component Testing (SCT) framework from Python to TTCN-3, reducing maintenance effort by 40% and doubling new test onboarding speed.
- Leveraged TTCN-3 abstraction and concurrency to cut runtime errors by 30%, improving CI stability.
- Developed reusable model-based test suites supporting distributed 5G call flows, increasing automation coverage from 60% to 90%.

## EDUCATION

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**Northeastern University** Boston, MA  
*Master of Science in Data Science* Jan 2021 – Sep 2022

**BMS Institute of Technology & Management** Bangalore, India  
*Bachelor of Engineering in Electronics and Communication* Aug 2014 – Jul 2018

## PUBLICATIONS & ACHIEVEMENTS

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**Publication:** *Design and Development of Real Time Vehicular Crash Detection System*, published in the *Grenze International Journal of Engineering and Technology*. [View Publication](#)

Certified in Python for Data Science

Certified in Applied Machine Learning

## TECHNICAL SKILLS

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**Languages:** Java, Python, C++, TypeScript

**AWS Services:** DynamoDB, Lambda, ECS, EKS, EC2, CloudFormation, CloudWatch, EMR, Fargate

**Big Data & Tools:** Spark, EMR, S3, Data Pipelines

**Frameworks/Tools:** Docker, Terraform, Jenkins, Git, REST APIs

**Concepts:** Distributed Systems, ETL, Automation, CI/CD, Cloud Security