

MODOU MBAYE

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SUMMARY

Experienced Software Engineer with a strong background in software development, network operations, cloud computing and systems. Skilled in Python, Java, and C, with a passion for building innovative solutions that solve complex problems. Currently contributing as a Software Engineer in the AWS Hyperplane team that manages a high throughput, low latency Network Function Virtualization (NFV) platform powering critical AWS Services including NLB, NAT Gateway, Private Link, S3 and EFS.

WORK EXPERIENCE

Amazon Web Services, Seattle WA

Software Development Engineer – AWS Hyperplane, EC2 Networking

Feb 2022– Present

- Strengthened the Hyperplane NFV platform, by helping introduce new customer-centric features, conducting rigorous testing, and enhancing monitoring capabilities.
- Streamlined instance migration by developing an automated workflow, reducing a labor-intensive 14-step process for migrating one fleet to a single step capable of migrating multiple fleets of instances efficiently.
- Implemented a software feature for smooth and reliable rollout of new features, reducing customer impact and enabling quick rollback if needed.
- Spearheaded the design to automate the creation of monitors in new regions, thereby streamlining a previously code-intensive process and enhancing efficiency in onboarding new infrastructure components.
- Developed a Python-based protobuf snapshot generation framework, facilitating tailored snapshot creation for diverse test cases.
- Leveraged DPDK (Data Plane Development Kit) to optimize packet processing speed in applications processing millions of packets per second.
- Troubleshooted and mitigated service failures including application crashes, high latencies, packet drops and performed root cause analysis, ensuring minimal downtime and high availability during on-call rotations.
- Contributed in refactoring efforts across code bases in C, Java, and Python, focusing on uniformity, readability, expandability and maintainability of code.
- Played a pivotal role in code reviews, design reviews, pipeline shepherding to ensure full CI/CD, and new infrastructure builds.

Amazon Web Services, Boardman, OR

Network Technician – Datacenter Ops

Aug 2020 – Feb 2022

- Owned and completed projects designed to increase datacenter capacity, or provide connectivity between Availability Zones including configuring, deploying, and upgrading core network racks and aggregation devices.
- Configured various types of L2 and L3 switches including Accton, Celestica, Juniper and Cisco using various CLIs such as Cisco IOS, JunOS, and GNU/Linux.
- Deep dived and troubleshooted networking, routing, inter connectivity, network device configuration issues and host failures.

Bank of America, New York, NY

Trade Floor Operations Support

May 2019 – Aug 2020

- Provided first line technical support to over 1500 users, including traders, seniors, managing directors, and VPs.
- Troubleshooted various software and network related issues concerning application crashes, PC performance, websites reachability, shared drives/folders connectivity, RDP/VPN connectivity, and internet connectivity.
- Investigated and researched various complex technical problems with efficiency and speed and involve necessary parties to resolve incidents quickly.

TECHNICAL SKILLS & QUALIFICATIONS

- **Programming Languages:** Python, Java, C, TypeScript
- **Tools & Technologies:** AWS, CDK, Boto3, TCP/IP, BGP, SDN, Pipelines, CI/CD, Linux, DPDK
- **Other:** System Design, Infrastructure, Troubleshooting, Networking, Testing, Monitoring, DevOps Principles
- **Certifications:** AWS Solutions Architect, AWS Security – Specialty, Cisco Certified Network Associate (CCNA)

EDUCATION

New York City College of Technology, New York, NY

Bachelor of Science, Computer Information Systems