Aditya Kumar

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EXPERIENCE

Senior Software Engineer   **Microsoft Corporation**   **June 2020 – Present**

- Contributed to GitHub Codespaces, a cloud-powered development environment backed by Azure services that supports **250,000+** daily environment creations and resumes, leading cross-functional initiatives to enhance platform stability and scalability, and achieving **99.9% uptime**.
- Engineered an automated resource scaling system, achieving **100% real-time scaling** during peak demand and reducing manual interventions, resulting in **$3M annual cost savings** and seamless service operations.
- Contributed significantly to service changes for prebuild Codespaces, reducing environment setup time for large repositories **from 45 minutes to 10 seconds** by pre-assembling code, dependencies, and configurations, drastically improving efficiency for complex projects.
- Spearheaded a cross-team initiative to optimize alert mechanisms, reducing **Time to Detect by 80%** to under 5 minutes and implementing automated regional failovers, reducing outage impact on customers by **95%**.
- Architected an asynchronous queue-based notification system, improving resource allocation by **30%**, enhancing error detection, and boosting operational efficiency by **25%** through detailed failure reporting.

Software Development Intern   **Amazon Inc.**   **June 2019 – August 2019**

- Developed and launched highly-scalable internal service **(1000 TPS)** based on service-oriented architecture (SOA) using various AWS technologies like DynamoDB, Lambda, S3, etc. (Java, Python, SQL, shell).
- Automated data migrations with distributed job scheduling and built a responsive single-page application (SPA) in React.js for the service which is used for analytics.

Software Engineer, R&D   **Sandvine Technologies**   **June 2016 – July 2018**

- Automated parameter calibration in fuzzy control system by developing service using C++ capable of monitoring network traffic over **100,000 locations**.
- Designed REST APIs for traffic shapers in C++, enabling dynamic policy enforcement without system reloads, **saving 9 hours** of maintenance time per month.
- Developed hash map and timers based internet traffic classification mechanism in C++ improving identification of applications that rely on third-party services by **90%** (on average).

EDUCATION

College Station, TX   **Texas A&M University**   **August 2018 – May 2020**

- Master of Computer Science, GPA: **4.0/4.0**

Calicut, India   **National Institute of Technology**   **July 2012 – May 2016**

- Bachelor of Technology in Computer Science and Engineering, GPA: **9.37/10.0**

PROJECTS

- **Reverse Image Captioning:** Created a Generative Adversarial Network (GAN) that generates images from textual descriptions, utilizing Python and PyTorch to produce accurate, description-fitting visual outputs.
- **Deep Person Re-Identification:** Developed occlusion immune Re-Id model using Random Erasing and reduced pose variation influence by using Pose normalized Generative Network(GAN). (Python, PyTorch)

LANGUAGES & TECHNOLOGIES

- C++, C#, Java, C, Python, MySQL, Shell Scripting, JavaScript, PHP, HTML, CSS
- Dynamo DB, Cosmos DB, Kubernetes, Azure Queues, S3, Lambda functions, Elasticsearch