Aditi Choudhary

Seattle, WA **|** (213) 378-9585 | aditi0702choudhary@gmail.com | www.linkedin.com/in/aditichoudhary/ |
https://aditichoudhary.me/

SOFTWARE ENGINEER

Highly analytical Software Development Engineer with a solid foundation in designing, developing, and deploying scalable applications. Skilled in various programming languages, including Java, Python, and JavaScript, and experienced in building end-to-end solutions that emphasize performance and reliability. Proficient in agile methodologies and utilizing modern development frameworks to optimize code quality and testing processes. Leveraging technical and problem-solving skills to contribute to innovative software engineering projects that deliver high-quality solutions and improve user experiences.

CORE COMPETENCIES

Data Structures | Algorithm Design | Functional Programming | Version Control | API Development | RESTful Services
Cloud Computing | Database Management | SQL Querying | NoSQL Databases | Unit Testing | Continuous Integration
Continuous Deployment | DevOps Practices | Full-Stack Development | Web Application Security | Code Refactoring
Scalability Optimization | Data Serialization | Web Services Integration | Code Review Process | Debugging Techniques

COMPUTER & TECHNICAL SKILLS

Programming Languages: C, C++, Python, Pyspark, JavaScript, C#, Java, MySQL
Web Development: React JS, jQuery, HTML, Bootstrap, CSS
Database Servers: SQL Server 2012+
AWS Resources: CDK, API Gateway, Lambda, IAM, Secret Manager, RDS, PostgreSQL, VPC, CloudFront, S3, DynamoDB, Kinesis, AWS Glue, ECS, CloudWatch RUM, CloudWatch
Framework: MVC, Spring Boot, ASP.Net, ADO.net, Swagger, Angular J, Angular 2+
Other Tools & Applications: Outsystems, Balsamiq, GIT, JIRA

PROFESSIONAL EXPERIENCE

Amazon Advertising - Seattle, WA   **Jul 2021 – Present**
Software Development Engineer I (Jul 2021 – Nov 2023) - Software Development Engineer II (Dec 2023 – Present)
- Design scalable data pipelines to handle growing datasets, ensuring reliability across Amazon Advertising.
- Optimize SQL and NoSQL queries for data retrieval, reducing latency and improving data accessibility for analytics.
- Collaborate with Business Intelligence Engineers to architect solutions that align with Amazon's business objectives.
- Prototype and deploy new features to enhance the query performance of applications used by internal stakeholders.
- Monitor ETL workflows by deploying enhancements to handle evolving data volumes with minimal processing delays.
- Resolve issues via COE processes by implementing corrective actions to prevent recurrences and improve the system.

Student Programmer | Signal Analysis and Interpretation Laboratory - Los Angeles, CA   **Jan 2021 – May 2021**
- Optimized data accessibility and publishing by extending the Django-based framework to incorporate new datasets.
- Collaborated with PhD researchers to address challenges in feature enhancement for smooth future dataset additions.
- Ensured robust code structure and optimized data processing by implementing Model-View-Controller architecture.
- Tested dataset integration modules to validate functionality and reliability to support accurate data representation.

Software Development Engineer Intern | Amazon Advertising - Seattle, WA   **May 2020 – Aug 2020**
- Created UI components in React.js for Amazon's advertising console to enhance interactivity for thousands of daily users.
- Utilized AWS CDK to design scalable backend infrastructure to ensure efficient handling of high-traffic user sessions.
- Deployed custom JavaScript solutions with React JS via Tampermonkey in Chrome to automate client-side tasks.

- Leveraged AWS Cloud Development Kit to implement backend infrastructure, streamlining API-driven data collection.

Software Analyst | Aspire Systems - Chennai, India   Jun 2017 – Jun 2019
- Collaborated with teams across the USA and Australia to design .NET-based financial and payroll web applications.
- Led full-stack development efforts using SCRUM methodology to deliver high-quality, user-centered financial solutions.
- Implemented the low-code platform "OutSystems" to accelerate application development and reduce project costs.
- Developed scalable and secure web applications tailored for the financial sector and aligned with client specifications.

PROFESSIONAL EXPERIENCE *CONTINUED*

Software Analyst Trainee | Aspire Systems - Chennai, India   Jan 2017 – Mar 2017
- Collaborated in developing an Employee Management System, using the MVC architecture to optimize HR operations.
- Conducted detailed system testing and debugging for the Training Calendar System to ensure optimal performance.
- Created detailed technical specifications, flow diagrams, & process maps to facilitate development and maintenance.
- Assisted in database design, data migration, and query optimization to enhance data integrity and retrieval efficiency.

PROFESSIONAL & ACADEMIC PROJECTS

GenAI Assistant for Advertising Console | Amazon Advertising   Jul 2024 – Nov 2024
- Developed CI/CD pipeline to streamline deployment processes, improve efficiency, and reduce time-to-market.
- Built robust infrastructure for the GenAI Assistant, ensuring scalability & performance while handling large datasets.
- Led security review to assess vulnerabilities to ensure system security and compliance with industry standards.
- Executed beta testing and initial strategies for a high-impact product, projected to generate over $400 million in revenue.

Analyzing Large-Scale Online Experiments | Amazon Advertising   Jan 2023 – Jul 2024
- Implemented A/B testing frameworks to analyze experiment impact on advertiser engagement & revenue outcomes.
- Executed data clustering and stratification techniques to assign experimental features to targeted advertiser groups.
- Analyzed experimental outcomes and generated insights that directly contributed to a revenue increase of $250M.

CloudWatch RUM Support for Advertising Console Pages | Amazon Advertising   June 2022- Dec 2022
- Reduced latency by 50% by providing data-driven insights, enhancing application performance and user satisfaction.
- Integrated CloudWatch RUM script into Advertising Console pages to monitor real-time web application performance.
- Increased revenue by 5% through real user monitoring insights to optimize advertising console page performance.

Classification of URLs on Advertising Console Pages | Amazon Advertising   Oct 2021 – Mar 2022
- Classified 96% of URLs on the Advertising Console by providing user-friendly names for improved data interpretation.
- Developed queries for Business Intelligence Engineers & Technical Product Managers to streamline data exploration.
- Leveraged Scala and Spark in AWS Glue to efficiently fetch and process large datasets from S3 buckets and DynamoDB.

CDK (Cloud Development Kit) Automation for Data Pipeline | Amazon Advertising   Jul 2021 – Jan 2022
- Automated AWS resource provisioning using CDK to streamline IAM, Redshift, DynamoDB, Glue, & S3 configurations.
- Developed robust CDK scripts that reduced onboarding time for new team members from 3-4 days to just half a day.
- Created Glue databases, crawlers, tables, and jobs with automated deployment to optimize data processing efficiency.

PAPER PRESENTATIONS & PUBLICATIONS

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▪ Presented a paper on '*Managing Big Data and Semantics (Wiki pages) in NoSQL format by Efficient Algorithms implemented in Python*' in '*National Conference on Computational Systems,*' Loyola College, April 2016 and published in International Journal for Research in Applied Science and Engineering Technology, Volume 5, Issue XI, Nov 2017
▪ Presented and published a paper on '*Product Recommendations using Data Mining and Machine Learning Algorithms*' in ARPN Journals of Engineering and Applied Sciences, Volume 12, NO. 19, Oct 2017

EDUCATION

Masters in Computer Science, CGPA: 3.62/4, University of Southern California | May 2021
Bachelor of Engineering in Computer Science, CGPA: 9.4/10, SRM University, India | May 2017

HACKATHONS & JUDGING ROLES

Judge | HACK MIT 2024 - Massachusetts Institute of Technology
Mentor | VT Hacks - Virginia Tech University
Judge | Mhacks - University of Michigan
Judge | NASA Space Apps - Australian event, Albuquerque event and event in India
Judge | Globee Awards
Mentor | PennApps XXV - University of Pennsylvania
ICLR Journal Reviewer | International Conference on Learning Representations