

# Ashish Pratap Singh

✉ xxx@gmail.com | 📞 XXX-XXX-XXX  
🐙 github.com/ashishps1 | 🔗 linkedin.com/in/ashishps1

## Skills

**Languages:** C/C++, Java, Python, JavaScript, TypeScript, SQL

**Technologies & Tools:** AWS, EC2, DynamoDB, S3, SQS, Lambda, Athena, Elasticsearch, Spark, Hive, Presto, Kubernetes, Docker, Splunk, Kafka, Spring, Angular, ReactJS

## Work Experience

**Adobe, Bangalore**

Mar 2021 - Present

**Computer Scientist**

- Led the migration of Hive and Presto jobs from Qubole to AWS EMR, enhancing availability and significantly reducing operational costs.
- Reduced the cost involved in running custom reports service by more than 80% by devising an automated system that identified and disabled reports with no usage or empty data.
- Led a cost-saving initiative by identifying unused AWS resources and establishing S3 bucket expiration policies, leading to an annual cost reduction exceeding \$50,000 in AWS expenditures.
- AWS, EC2, S3, EMR, Hive, Presto, Qubole, Kafka, Druid, Zookeeper, MySQL, Kubernetes, Docker, Bazel

**Amazon, Bangalore**

Sept 2019 - Mar 2021

**Software Development Engineer**

- Worked on migrating ML workflows to Native AWS, enabling automated scalability based on workload demands and improving the logging and troubleshooting capabilities.
- Developed a customized batch workflow plugin for an external team to help them save upto \$6MM in human labelling cost for their ML experiments. This was achieved by auto labelling high confidence records using our ML models.
- Java, Python, TypeScript, AWS Step Functions, AWS Batch, Lambda, S3, DynamoDB, EC2, SQS, SNS, AWS CDK, AWS Athena, Elastic Search, LightGBM, TensorFlow

**Morgan Stanley, Bangalore**

Aug 2017 - Aug 2019

**Technology Associate**

- Built a visualization tool to group contextually related infrastructure alerts (issues) to reduce the Mean Time to Resolution. Modeled the infrastructure dependencies as a graph problem and used graph algorithms like BFS, Union-Find to show the visualization and identify the root cause for a bunch of alerts.
- Developed a Machine Learning powered solution to predict the likelihood of a production deployment resulting in an emergency reversion.
- Python, Flask, ReactJS, Redux, Angular, d3, Kafka, DB2, scikit-learn

## Education

**BITS Hyderabad**

Aug 2013 - Jun 2017

B.E. in Computer Science and Engineering

**CGPA: 7.96/10**

Relevant Coursework: Object Oriented Programming, Databases, Discrete Maths, Data Structures and Algorithms, Operating Systems, Computer Networks, Machine Learning, Data Mining, Advance Data Structures and Algorithms, Information Retrieval, Image Processing

## Project Work

- **Word Lookup Dictionary (2015):** Developed a desktop software for online lookup of English words. Implemented efficient search of valid words using Trie data structure. Implemented spelling correction and auto-suggestion using edit distance algorithm. Used web scraping to get the data for online lookup. Python, BeautifulSoup.
- **Alternative-Routes in Road Networks (2016):** Applied Dijkstra's shortest path algorithm to find the route which takes the shortest time to travel from source to destination in a given road network with randomly generated traffic. Implemented methods to avoid collisions between vehicles by dynamically changing their speeds. Used C++ and OpenGL library for simulation. C++, OpenGL
- **Clustering SSH Attacks (2016):** Applied KMeans clustering algorithm to segregate different kind of attacks during a Secure Shell (SSH) session by making use of network packet files(pcap). It involved finding the best value of K and grouping the similar files on the basis of cluster assignments. Java, WEKA

## Awards and Certificates

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- **Mentor at Scaler Academy:** Helping students and working professionals to get better at problem solving, coding and system design
- Data Engineering Nanodegree on Udacity
- Machine Learning and Deep Learning Specialization on Coursera