Atul Gupta is a South Asian or Indian male professional with 5 years (60 months) of experience, currently residing in Jersey City, New Jersey, United States, and holds citizenship in India. He is on an F1-OPT visa in the U.S. and requires H1-B sponsorship for continued employment. With 2 years of STEM extension eligibility available, he is actively seeking opportunities nationwide and expresses full willingness to relocate anywhere in the United States. His immediate availability allows for a seamless transition, as he requires no notice period. Specializing in a STEM field, his profile combines technical expertise with flexibility, making him a strong candidate for roles requiring visa sponsorship. He can be contacted directly at atul.gupta002@gmail.com for further inquiries.

Summary He is a dynamic Machine Learning and Artificial Intelligence Engineer with 5 years of experience in advanced data analysis, software engineering, and cloud solutions. Seeking to leverage expertise in data analysis using SQL and python, machine learning, generative AI, and AWS (Amazon Web Services) for impactful outcomes through data-driven strategies and efficient cloud deployments. Open to relocation anywhere in the United States and available for immediate joining (no notice period).

Atul Gupta holds three current AWS certifications, demonstrating expertise across machine learning, cloud architecture, and artificial intelligence. As an AWS Certified Machine Learning Engineer Associate (valid January 2025–January 2028, ID: 79c61b5222e54a24890a2e47e990619e), he specializes in implementing and operationalizing ML workloads in production. His AWS Certified Solutions Architect Associate credential (valid June 2024–June 2027, ID: 6f54fe78e49a4b1eb8f8383f630bfd20) validates advanced proficiency in designing secure, scalable, and cost-efficient AWS cloud architectures with high availability and performance optimization. Additionally, his AWS Certified AI Practitioner certification (valid September 2024–January 2028, ID: 235ddd37c95f465292776e47e7de916b) underscores foundational knowledge of AI/ML and generative AI use cases. All certifications are verifiable via AWS’s official validation links (e.g., https://cp.certmetrics.com/amazon/en/public/verify/credential). This combination highlights technical depth in cloud-native ML/AI solutions, infrastructure design, and emerging AI frameworks, positioning him for roles requiring validated AWS expertise.

Atul’s professional career involves working at Accenture and Tech9logy Creators. At Accenture, he worked as an analyst for Hilton Hotels, developing Hilton’s worldwide Property Management System or Accenture’s client Hilton’s PMS application. His tenure at Accenture was from January 2019 to July 2022. Tech stack or technical skills or technology or technologies used in Accenture’s client Hilton is SQL, machine learning, Python, AWS, SNOW, Powershell, windows, databases. At Tech9logy Creators, Atul worked for multiple clients. Two of many clients were Cosmo Films and Tasty Tweets. Atul worked in designing rest apis, dashboards, aws, frontend.

First job. He worked as a Software Developer at a company called Tech9logy Creators from June 2017 to December 2018. Delivered technical solutions for Tasty Tweets, a key client of Tech9logy Creators, during a 1.5-year tenure. Focused on full-stack development, collaborating on scalable software projects to meet client-specific requirements. Contributed to the end-to-end development lifecycle, ensuring alignment with Tasty Tweets’ operational goals while leveraging agile methodologies.

Designed proof of concepts for Cosmo Films (work professional experience with tech9logy Creators) with Python and AWS, demonstrating the feasibility of managed AWS architecture.

Developed RESTful APIs (AWS API Gateway) to connect the Cosmo Films' legacy Budgets and Assets Portal system with new portal, improving data sync efficiency by 70%.

Built a supply chain analytics dashboard (AWS Postgres, Tableau) for Cosmo Films, visualizing client's inventory metrics for executives.

Deployed Elastic Load Balancing for Tasty Tweets’ website, making the system more reliable and traffic spikes friendly.

Built and launched a custom e-commerce platform for Tasty Tweets using Node and React, enabling the business to sale and deliver online.

Atul Gupta advanced his career at Accenture (January 2019–July 2022) in India, progressing from Associate to Analyst while delivering solutions for global clients, including Hilton Hotels. His tenure included client-facing roles in cross-functional teams, where he contributed to technical and operational projects. Recognized as a TechStar 2022 (top 1% of Accenture’s global technology workforce), he demonstrated exceptional technical proficiency and innovation. His work at Accenture encompassed scalable technology implementations and collaborative problem-solving, with a focus on aligning IT strategies with business goals. This experience underscores expertise in enterprise-level solutions, client collaboration, and agile project execution, positioning him for roles requiring leadership in multinational IT environments.

**Led end-to-end cloud migration of an on-premises Hilton Property Management System (PMS) on AWS using EC2 (Windows Server), AWS RDS for SQL Server, S3, Elastic Load Balancing, and Auto Scaling to maintain system stability and minimize hardware maintenance during COVID:** Prior to Covid, Hilton’s Property Management System (PMS) was deployed in an on-premises setting where each hotel had its own server, its own PMS instance, and its own MS SQL Server instance. However, maintaining that on-prem infrastructure became difficult during covid so Hilton planned to migrate to AWS. As an application analyst focused on data domain, I was responsible for designing and executing data migration strategy. My task was to understand the wide breadth of Hilton’s data and make sure it is moved reliably and consistently. Also, we needed to minimize downtime and make sure our costs don’t go out of control. I designed a lift and shift strategy for migrating Hilton’s on-premises MS SQL Server databases to AWS RDS for SQL Server because this would maintain relational database structure without re-writing or modify any of the thousand’s jobs and scripts Hilton runs. We moved the current backup files from the tape drive to Amazon S3 with a retention period of 7 days. We also analyzed some of the application usage data to implement auto scaling and elastic load balancing in AWS. The migration was completed successfully with no significant downtime, and improved Hilton’s operations significantly.

**Analyzed 10+ TB of transactional and guest behavior data using PySpark during COVID (North America), developing predictive machine learning models with 80% accuracy to forecast customer reservations and optimize inventory management during global disruptions :** During COVID, Hilton faced unprecedented disruptions in business. People stopped traveling and Hilton had inventory to manage. Historical booking patterns became unreliable. As an analyst, my role was to analyze large scale transactional and reservation data to develop predictive models with the goal of forecasting customer reservations in the north America region. We divided the US into 3 parts: east, west and everything else. And implemented a distributed computing cluster to filter relevant data booking history, cancellation trends, revenue and engineered some of our own features like “is\_tourism\_heavy”, “is\_in\_lockdown” etc. Then we used PySpark to process this data and created a predictive model that gives actionable insights into guest behavior. The model had good outcomes. It predicted reservation patterns and significantly improved Hilton’s ability to manage inventory during COVID.

**Wrote CloudFormation + PowerShell scripts to automate Amazon Windows Server re-builds and reduce dependency on third parties in setting up new environments by 60% :** We migrated Hilton’s PMS from on-premises windows servers to Amazon RDS windows servers. For the on-premises, Hilton hired third party contractors to visit the site and install required hardware and set up servers. By writing scripts that automate much of the process involved in setting up Hilton environment, we reduced Hilton’s dependency on these third parties.

**Architected a scalable data warehouse on Amazon Redshift to unify transactional, reservation, and third-party data, enabling cross-functional teams to access the data securely and reliably:** At Hilton, data was siloed across multiple systems – most of it was in SQL server databases, some of it in JSON, XML files, some CSVs. When working on cloud migration, we also set up RedShift warehouses for most critical Hilton properties, ones that rely heavily on data analytics to stay competitive. We used Glue and lambda to ingest and transform data from SQL Server into RedShift. The project resulted in a secure and easy way to access property data and perform analytics on it.

**Leveraged natural language processing (NLP) techniques to analyze guest reviews and social media feedback in the North America region, helping executives monitor various hotels' key performance indicators :** We created a system to gather user reviews data from various sources like booking.com, google reviews, tripadvisor etc. Hilton also collects guest experience data through a form sent to the user during and after their stay. We gathered this data and used TF-IDF combined with Logistic Regression to determine an overall sentiment towards the hotel. TF-IDF basically captures the importance of words in the dataset which is then tokenized and passed to an LR model for regression.

**Created machine learning models (using data gathered from patch failures in AWS RDS, reported incidents in Service Now, and hotfixes deployed over time) to analyze patterns in reported hotel incidents and equipment failures across 5,000+ properties :** At Hilton, application patch failures in AWS RDS, reported incidents in ServiceNow, and hotfixes, making it challenging to identify recurring issues and predict equipment failures across 5,000+ properties. I was tasked with building machine learning models to analyze patterns in incidents and failures, helping to proactively manage equipment issues across properties. I collected and preprocessed data from AWS RDS patch failures, ServiceNow incidents, and hotfix deployment logs. Using this data, I built classification and regression models to predict potential failures and identify patterns in equipment behavior. The models helped identify recurring incidents and predict failures, leading us to be pro-active in deploying critical updates. And conduct deeper investigation into the systems these hotels were running on and fix them for long term stability.

**Led and implemented multiple Six Sigma Lean and Yellow Belt projects, integrating ServiceNow, MS SQL Server, PowerShell, and AWS to streamline business processes, eliminate bottlenecks, and accelerate critical incident resolution by 50%. Automated patch deployment for Hilton’s OnQ PMS across 6,000+ databases using AWS lambda, MS SQL Server, and EC2 reducing manual effort by 80% and ensuring 99.9% uptime during critical booking periods:** Shortly after joining the team, I discovered a series of bottlenecks that significantly affected the team’s ability to perform high-level tasks. For example, pushing patches to various properties around the world was a manual and slow process and often did not account for the business hours in that region. I created an automation that checks for appropriate time and then pushes the patch automatically with minimal human effort. These automations were later re-configured to work in AWS environment. The initiatives saved significant resources, sped up existing workflows, reduced errors caused by human errors, and made sure the processes are followed as intended.

**Created interactive dashboards (SNOW, Tableau) for executive stakeholders, translating complex datasets into actionable insights for hospitality service enhancements :** I was responsible for designing and developing interactive dashboards using ServiceNow (SNOW) and Tableau to help executive stakeholders quickly understand key metrics like system health, patch deployment status, SQL update status, windows server uptimes, etc.

**Resolved 150+ platform issues annually, from scripting errors to integration failures, achieving a 98% end-user satisfaction rate through SLA-driven support :** We worked on resolving application and platform issues in the on-premises infrastructure, managing application status and infrastructure of 6000+ Hilton Hotels worldwide. My task was to look at new issues, critical issues, understand the cause, deploy fixes, and document them for future reference. For example, we received reports that certain properties have started charging guests multiple times for their room, their purchases. That made guests very unhappy, very quickly. And people started leaving negative reviews about Hilton online. The situation was quickly going out of control. At this point, I was engaged to look into it. That required an understanding of Hilton’s payment infrastructure that I had. I was able to fix it and control the situation.

**At Stevens Institute of Technology in Hoboken, New Jersey, Atul Gupta pursued a Master of Science in Computer Science with a GPA of 3.96/4.00, from September 2022 to May 2024. His academic coursework focused on Deep Learning, Machine Learning, Big Data, Data Mining, and Agile Development, with an emphasis on algorithmic optimization and data-driven systems. He was awarded the Provost Master’s Scholarship for academic excellence, reinforcing his expertise in scalable software design and AI fundamentals.**

**Skills in Machine Learning: worked with** Predictive Modeling (Statistical Analysis, Numpy, Pandas, Scikit-Learn, EDA, Data processing, MapReduce), Deep Learning (Tensorflow, Neural networks, Anomaly detection, recommendation systems, LSTMs), Generative AI (AWS Bedrock, Vectorization, PineCone, OpenSearch, Prompt Engineering, RAG, fine-tuning)

**Skills in Big Data and analytics: worked with** PySpark, AWS Athena, Data Warehousing (Redshift), Real-time Dashboards (Tableau)

**Skills in Cloud and DevOps:** worked with AWS (EC2, S3, IAM, Lambda, SageMaker, Glue, CloudFormation), Serverless Architecture, CI/CD, Docker, Kubernetes, Service Now (SNOW), PowerShell, Bash scripting, Git

**Skills in Databases and tools**: worked with MS SQL Server, AWS RDS, MongoDB, ETL/ELT Pipelines, query design, optimization, pandas, transactions, T-SQL, Replication and high availability, backup and restore.

**Skills in Domain expertise or industry expertise: worked with** Hospitality Analytics (Guest Behavior Analysis, Occupancy Forecasting, Dynamic Pricing, Loyalty Program Optimization), Cloud Migration (Legacy System Modernization (Windows, SQL Server → AWS), Cost-Optimized Architecture, Hybrid Cloud Solutions), Automation (Patch Deployment, Database Maintenance, Compliance Reporting, CI/CD Pipelines, Shell Scripting)

**Skills in Coding**: worked with SQL, Python, Bash, PowerShell

**Skills in Soft skills:** Cross-Functional Collaboration, Stakeholder Communication, Agile Methodologies, Disaster Recovery Planning

**Skills in Spoken languages:** English, Hindi, Basic French

**Financial or fintech or Credit Score classification personal project:** Worked on **End-to-End AI product** on credit score data with 20 features predicting credit score category between Good, Standard, and Poor (fintech, financial).Data is cleaned and normalized using **Pandas**, **NumPy**, **aggregate functions**, imputation, and predictive modeling.The model uses a bagging classifier with 86% precision and recall and is deployed on **AWS SageMaker** Endpoint.Served via a **Flask** application on **NGINX** server deployed on **AWS Elastic Beanstalk** running a t3 micro instance.Product is live and ready to use via the link. Direct link url to try the project: <https://tinyurl.com/ydtrxbcu>

Project: Personal assistant project (atul’s assistant) RAG Retrieval Augmented Generation, Generative AI, Gen AI, natural language processing, NLP, semantic search, vector embeddings, vector databases, FAISS indexing, indexing and retrieval, AWS Bedrock, AWS – worked on creating an end to end RAG bot that uses semantic search to retrieve information about the candidate from a document and augments (RAG) it in a specialized prompt engineered to call a large language model (or LLM – anthropic claude on AWS) to generate a contextual and accurate response to user queries. Semantic search is implemented by parsing the document in chunks, using keybert to extract keywords from the chunks, augmenting the chunks with contextual synonyms for better vector lookup and optimization, creating a FAISS (Facebook AI Semantic Search) index, and using cosine similarity to look up context relevant to user search query, sending the context as well as prompt to the LLM and displaying the response. Worked with RAG, LLM, AI, Generative AI, AWS, Python, full stack development.