

# Syed Muhammad Nabeel Mustafa

Cloud & AI Engineer | AWS Certified Cloud Practitioner | Legal Professional

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## Professional Summary

Highly analytical and results-driven professional with a unique blend of Cloud & AI Engineering expertise and a robust foundation in Law. Poised to innovate and lead within the evolving LegalTech landscape, I specialize in designing, deploying, and automating scalable cloud infrastructure (AWS services including EC2, Lambda, S3, RDS, IAM, CloudFormation) and excel in CI/CD pipelines and Infrastructure as Code (IaC). My interdisciplinary background in Software Engineering, Data Science, and Law (LLB) enables me to drive AI governance, ensure data privacy, and implement ethical AI solutions. I possess proven ability to extract strategic insights from complex data, optimize legal workflows through AI tool integration, and ensure organizational adherence to legal and regulatory frameworks. Passionate about leveraging cutting-edge technology to enhance legal services and solve complex business challenges.

## Education

### MS Data Science, NED University of Engineering and Technology, Karachi | 2021-2022

- Relevant Coursework: Machine Learning, Big Data Analytics, Statistical Modeling, Data Visualization

### LLB, University of Karachi, Karachi | 2018-2021

- Focus: Cybercrime Law, Intellectual Property, Commercial Law, Constitutional Law

### BS Software Engineering, Sir Syed University of Engineering and Technology, Karachi | 2016-2019

- Relevant Coursework: Software Design & Architecture, Database Systems, Object-Oriented Programming

## Work Experience

### Cloud Engineering Intern - INIT (Pvt.) Ltd., Karachi | April 2025 - June 2025

- Engineered and deployed scalable, secure cloud applications leveraging AWS EC2, Lambda, Lightsail, and container services, achieving 99.9% uptime.

- Automated and optimized CI/CD pipelines using AWS CodePipeline, CodeBuild, and CodeDeploy, resulting in a 40% decrease in deployment time.
- Implemented Auto Scaling Groups and Elastic Load Balancers to dynamically manage traffic, successfully supporting up to 3x peak load without downtime.
- Led the migration of critical legacy applications to AWS cloud, reducing infrastructure costs by 25% and minimizing downtime by 30%.
- Architected and secured AWS network infrastructure using VPC, Subnets, Security Groups, and Route Tables, significantly improving compliance and overall security posture.
- Provisioned and optimized RDS databases with multi-AZ deployments and automated backups, increasing data availability to 99.99%.
- Designed and implemented S3 storage solutions with lifecycle policies and cross-region replication, achieving 20% reduction in storage costs.
- Monitored cloud resource utilization and costs via AWS Budgets and Cost Explorer, identifying and realizing 15% cost savings.
- Automated infrastructure provisioning using AWS CloudFormation and Terraform, reducing manual errors by 70%.
- Configured robust monitoring and alerting systems with AWS CloudWatch, decreasing incident response times by 60%.

#### **Senior Legal Counsel - M/s M.A. Kazi & Associates, Karachi | March 2023 - March 2025**

- Conducted extensive legal research and drafted comprehensive legal documents for civil, criminal, and commercial law cases, providing critical support to senior attorneys.
- Successfully represented clients in complex criminal and civil cases, consistently achieving favorable outcomes and maintaining 100% client satisfaction.
- Directed client communications and meticulously coordinated all aspects of case preparation, ensuring efficient workflow and timely submissions.
- Pioneered the integration of AI tools and legal tech solutions to automate legal research and optimize case management, significantly enhancing departmental efficiency and data retrieval accuracy by an estimated 15%.

#### **Intern - Jaffer Brothers (Pvt.) Ltd., Karachi | June 2019 - July 2019**

- Actively assisted the IT department with network maintenance, troubleshooting, and hardware support, gaining practical exposure to corporate IT infrastructure.

- Contributed to data entry and digital document organization, improving the accessibility and efficiency of departmental records.

#### **Intern - Karachi Port Trust, Karachi | December 2018**

- Gained foundational understanding of maritime law, port regulations, and operational procedures through direct observation and administrative support.
- Assisted with the processing of legal documents and maintenance of critical records for various legal and operational departments.

#### **Technical Skills**

- Cloud Platforms: AWS (EC2, S3, Lambda, RDS, IAM, CloudFormation, CloudWatch, CodePipeline, Lightsail, SageMaker, Bedrock, Glue, Kendra, Polly)
- Infrastructure as Code (IaC): Terraform, AWS CloudFormation
- DevOps & CI/CD: AWS CodeBuild, CodeDeploy, AWS CodePipeline, Git, GitHub Actions, Docker
- Programming Languages: Python, R, Shell scripting
- AI & Data Analytics: Tableau, PowerBI, Machine Learning (Supervised/Unsupervised), Natural Language Processing (NLP)
- Security & Compliance: AWS IAM, Network Security, AI Governance Frameworks

#### **Legal & Compliance Skills**

- Cybercrime Law & Digital Forensics: Expertise in legal aspects of cybercrime, digital evidence collection, and forensic investigation principles.
- Data Privacy & Protection: In-depth knowledge of global data protection regulations (e.g., GDPR, CCPA) and experience in developing/implementing privacy strategies.
- AI Governance & Ethics: Strong understanding of ethical AI principles, emerging regulatory frameworks for AI, and best practices for responsible AI development and deployment.
- Intellectual Property Law: Proficient in copyright, trademark, patent, and trade secret law, including strategic protection and enforcement.
- Commercial Law & Contracts: Experienced in drafting, reviewing, and negotiating a wide range of commercial contracts and agreements.

- Legal Research & Analysis: Advanced skills in legal research methodologies, statutory interpretation, case law analysis, and legal precedent application.
- Legal Drafting & Documentation: Proven ability to draft precise, persuasive, and legally sound documents, opinions, briefs, and pleadings.
- Regulatory Compliance: Ability to monitor, interpret, and ensure organizational adherence to complex legal and industry-specific regulatory frameworks.
- Risk Management: Skilled in identifying, assessing, and mitigating legal, operational, and compliance risks within an organizational context.
- Stakeholder Communication: Excellent communication and negotiation skills for bridging tech-legal gaps and effectively liaising with diverse internal and external stakeholders.
- Project Management: Ability to Lead cross-functional collaboration between legal and IT teams to successfully implement AI-driven legal research and case management solutions, improving workflow efficiency and stakeholder engagement.

## **Projects**

### AI Legal Advisory (Supervision)

- Provided technical and legal supervision for a final year project focused on applying AI for legal research, directly contributing to a 25% improvement in data retrieval accuracy.

### Cloud Migration Demo

- Developed a comprehensive AWS migration strategy for legacy applications, demonstrating a potential 20% reduction in operational costs and enhanced scalability.

### Serverless API Development

- Built a robust REST API using AWS Lambda and API Gateway, optimizing backend processes and improving response times by 30% for a key application.

### Urdu Voice Chatbot Development

- Developed a voice-input chatbot communicating in Urdu, leveraging Natural Language Processing (NLP) to bridge language barriers and enhance information accessibility for users, demonstrating practical AI application.

## **Certifications**

AWS Certified Cloud Practitioner

Scrum Fundamental Certified

## Achievements

- Evaluated the "Prompt Engineering Module" at Technova 25 (IoBM, Karachi), providing expert feedback that contributed to curriculum enhancement.
- Acted as a Jury Member for the Cyber Mock Trial organized by NED University of Engineering and Technology, assessing legal arguments and technical evidence in simulated cybercrime cases.
- Evaluated Mid Semester Projects in Artificial Intelligence at Sir Syed University of Engineering and Technology, contributing to academic rigor and student development.
- Served as External Supervisor for the "AI Legal Advisory" project at Sir Syed University of Engineering and Technology Karachi, guiding students in the practical application of AI in legal contexts.
- Presided as Head of the Organizing Committee for the International Conference on Innovations in Computer Science (ICONICS'22) at NED University of Engineering and Technology Karachi, demonstrating strong leadership and event management capabilities.
- Qualified to practice law in Lower Courts, showcasing a foundational understanding of legal practice.
- Invited speaker on "Artificial Intelligence in Legal Informatics" organized by Karachi AI, sharing insights on the intersection of AI and law with industry professionals.
- Published a number of research papers on the subject of Artificial Intelligence and its application in various fields in reputed international and national journals and conferences. Link of Google Scholar Profile:  
<https://scholar.google.com/citations?user=YbkY0aEAAAJ&hl=en&oi=ao>