

# Ashutosh Soni

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## Skills

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**Languages and Frameworks:** C/C++, Python, Java, SQL

**Databases:** MySQL

**Developer Tools:** Git, VS Code

**Cloud Tools:** DynamoDB, VPC, Amazon RDS, AWS Bedrock, EC2, S3, Lambda

**Security:** Password Hashing, Cryptography Basics

**Microcontrollers:** ESP8266, ESP32, Arduino UNO

## Projects

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### Missing Implied Volatility Prediction

- Built a physics-informed neural network (PINN) model to predict missing implied volatility values from partial option pricing datasets.
- Incorporated financial constraints into the training process to improve accuracy and robustness of predictions.

### Supply Chain Optimization Using Mixed Clustering

- Developed a hybrid clustering pipeline using DBSCAN, K-Means, and PCA to optimize supply chain operations.
- Analyzed inventory trends, forecasted low-stock items, and generated confidence plots for inventory predictions.
- Automated inventory alerts to flag critical stock levels using statistical thresholds.

## Professional Certifications

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**AWS Educate Introduction to Cloud 101** – Amazon Web Services (AWS) *Mar 2025*  
*Skills: Amazon DynamoDB, Amazon VPC, Amazon RDS*

**AWS Educate Introduction to Generative AI** – Amazon Web Services (AWS) *Dec 2024*  
*Skills: Amazon Bedrock*

**AWS Educate Machine Learning Foundations** – Amazon Web Services (AWS) *Dec 2024*  
*Skills: Machine Learning, Amazon EC2*

**Goldman Sachs – Software Engineering Job Simulation** – Goldman Sachs *Dec 2024*  
*Skills: Password Hashing, Cryptography*

## Education

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**B.Tech in Computer and Communication Engineering**  
Amrita Vishwa Vidyapeetham *2024-2028*

**Higher Secondary**  
Sri Chaitanya Techno School *May 2023*

**High School**  
Ryan International School *May 2021*