

# Adarsh Koshiya

Master's Student - Artificial Intelligence

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## Education

- Oct 2024 – **Master of Science in Artificial Intelligence for Industrial Applications**, *Ostbayerische Technische Hochschule Amberg-Weiden*, Amberg, Germany  
Current *Deep Learning, Machine Learning, AI Security, NLP*
- July 2020 – **Bachelor's in Computer Science Engineering with specialization in cyber security**, *Rashtriya Raksha University*, India  
May 2024  
Final Grade: 8/10 (on a 1.0 to 10.0 scale, where 10.0 is highest)  
*Mathematics, Programming, Process Optimization, Database Systems, Software Engineering*
- June 2017 – **Secondary and Higher Secondary School**, *Kaushal Vidhyabhavan*, India  
March 2020  
Final Grade: 8.9/10 (on a 1.0 to 10.0 scale, where 10.0 is highest)

## Practical Experience

- Jan 2024 – **Software Engineer**, *Digion Software*  
Sep 2024 Deployed pipelines and set up real-time model monitoring using Python and ELK Stack.  
Worked in Scrum-based agile teams, participating in sprint planning, reviews, and testing cycles.
- Oct 2023 – **Developer Intern**, *Salesforce Virtual Internship*  
Dec 2023 Automated data workflows and project reporting using Python and REST APIs.  
Supported agile software development and cloud-based process automation.  
Contributed to digital transformation and data analytics initiatives across teams.

## Academic Projects

### PCI DSS Security Monitoring System (Digion Software)

- Developed and deployed a real-time cardholder data monitoring system with Elastic Stack (ELK) as per PCI DSS (Payment Card Industry Data Security Standard).
- Systematized log ingestion and visualization using Python scripts, enabling rapid security threat detection.

### Quantum Circuit Image-to-Text Dataset Compilation | NLP Project

- Developed automated Python pipeline extracting quantum circuit images from arXiv publications with structured metadata such as gates, algorithms, descriptions.
- Implemented multi-stage filtering combining LaTeX context analysis and OpenCV visual verification
- Integrated NLP techniques (TF-IDF, sentence segmentation) for text-figure alignment and enhanced metadata extraction, achieved improvement in completeness
- Designed scalable, modular architecture processing heterogeneous LaTeX sources

### Sensor Fusion for IMU/BLE Indoor Localization

- Developed a prototype indoor localization system in Python by fusing IMU (step/heading) and BLE (RSSI) sensor data.
- Built the core Particle Filter algorithm using NumPy and SciPy to process motion models and RSSI-based measurement models.
- Collected sensor data from an Arduino-based rig and created a real-time trajectory visualization using Pygame.

### Stock Data Analysis and Prediction

- Analyzed and visualized Apple (AAPL) stock price data using Python in a Google Colab environment.
- Performed data manipulation and created advanced visualizations using Pandas, NumPy, Matplotlib, and Seaborn.
- Built and tested time-series forecasting models, including ARMA and ARIMA, with the statsmodels library.

## Plant Disease Classification with Explainable AI (XAI)

- Built a binary classifier (healthy vs. diseased plant images) using MobileNetV2 and PyTorch with transfer learning and ImageNet pretrained weights.
- Achieved 99.8% validation accuracy via fine-tuning, data augmentation, label smoothing, and Adam optimization.
- Implemented Grad-CAM to visualize model attention and explain predictions in an end-to-end inference pipeline.
- Deployed on Raspberry Pi with camera capture, inference, and Grad-CAM overlay; outputs transferable for viewing on connected device.

## Log Analysis Using Splunk

- Designed and deployed a virtual lab with Windows and Linux VMs simulating real network traffic and attack scenarios.
- Configured Snort IDS and Sysmon for proactive intrusion detection and detailed system event monitoring.
- Planned and executed system tests in simulated multi-VM environments to detect faults and test logging reliability.

## Skills

Programming Languages	Python, Java, C, C++, HTML, CSS, SQL
Tools & Frameworks	Scrum, Git, MS Office, Power BI Docker, PyTorch
Technical Skills	Machine Learning, Data Analysis, Artificial Intelligence, LLM
Development Practices	Agile, CI/CD, Project Management, Testing

## Languages

English	Fluent (IELTS-C1)
German	Intermediate (B1)
Gujarati & Hindi	Native

## Extra Curricular

- Aug 2021 – May 2024 **Member of the TCA Club, Rashtriya Raksha University**
- May 2022 – May 2024 **Volunteer, NSS - National Service Scheme**
- July 2018 – Sep 2023 **Volunteer of Anurakti Foundation admitted by Rotary International**
  - Provided education and raised awareness about health among underprivileged children.

## Courses

Google Cloud	Smart Analytics, Machine Learning, and AI on Google Cloud
University of Michigan	Python 3 Programming, Data Collection and Processing with Python
Google, Coursera	Data Analysis with R Programming, Google Cloud Big Data and ML Fundamentals
IBM, Coursera	Computer Networks and Network Security
IBM	IBM Cybersecurity Analyst Professional Certificate