

# Tihetna Mesfin

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**Location:** Addis Ababa, Ethiopia

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## PROFESSIONAL SUMMARY

AI Engineer/Software Developer with expertise in computer vision and AI. Passionate about building ML-powered solutions. Certified Junior Cloud Practitioner (AWS & Azure). Possesses a passion for continuous learning and development, with experience as a lecturer.

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## EDUCATION

<b>Adama Science And Technology University (ASTU)</b>	
Master of Science in Computer Science and Engineering	Adama, Ethiopia
<b>Adama Science And Technology University (ASTU)</b>	<b>January 2021 - November 2022</b>
Bsc Degree in Computer Science and Engineering	Adama, Ethiopia
	<b>October 2015 - December 2020</b>

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## HONORS/AWARDS

<b>MSc. Scholarship from Adama Science And Technology University (ASTU)</b>	
Recipient of MSc. Scholarship at Adama Science and Technology University (ASTU) for academic excellence and research potential.	<b>January 2021</b>

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## PROFESSIONAL TRAINING

<b>AI/Machine Learning Mastery Training</b>	<b>November, 2024</b>
12 weeks of AI/Machine Learning training conducted by 10Academy partnered with Kifiya on November, 23/2024 G.C, in Addis Ababa, Ethiopia.	
<b>Research Methods Training</b>	<b>March, 2023</b>
Eight hours of Research Methods training conducted by St. Mary's University on March, 01/2023 G.C, in Addis Ababa, Ethiopia.	
<b>Excellence and Equity in Education (EEE) Workshop</b>	<b>March, 2023</b>
Eight hours of Excellence and Equity in Education conducted by St. Mary's University on March 05/2023 G.C, in Addis Ababa, Ethiopia.	
<b>Curriculum Development Training</b>	<b>Feburary, 2023</b>
Eight hours of Curriculum Development training conducted by St. Mary's University on Feburary 28/2023 G.C, in Addis Ababa, Ethiopia.	

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## TEACHING EXPERIENCE

### St Mary's University

#### Lecturer

January, 2023 - April, 2024

- Teaching Different Computer science Subjects including NLP, computer vision, Advanced database, Research Methodology, Mobile application development, Fundamental of programming, etc.
- Supervising Students on their BSc final projects.
- Supported faculty with curriculum development and student mentoring.

### Adama Science And Technology University (ASTU)

January, 2021 - November, 2022

#### Research and academic assistant

- Assisted in academic research and data analysis.
- Conducted literature reviews, managed databases, and ensured accurate data collection for research projects.
- Teaching various computer science and engineering courses in the laboratory to students ranging from first-years to fourth-years.

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## RESEARCH EXPERIENCE

### Market Price Analysis and Prediction System Using Regression Techniques and LSTM Models

May, 2024 - Present

- Designed and implemented a market price prediction system using time-series data. This project involved the use of regression techniques and Long Short-Term Memory (LSTM) models to forecast price trends, aligning with predictive modeling and statistical analysis in data science.
  - Built and trained LSTM models for time-series forecasting.
  - Applied regression techniques to analyze market data and predict trends.

### ADOPTING CROSS CHANNEL COMMUNICATION BLOCK in to the GENERATIVE ADVERSARIAL NETWORK (GAN) for DENOISING of LOW DOSE CT IMAGES

September 2021 - November, 2022

(Submitted to Hindawi for publication)

- This research focuses on enhancing medical image quality using advanced machine learning techniques. By integrating Cross-Channel Communication Blocks into GAN architectures, I was able to significantly improve the denoising of Low Dose CT (LDCT) images. This work directly ties into data science through the application of data-driven models for improving the accuracy and efficiency of medical data interpretation.
  - Utilized Generative Adversarial Networks (GANs) to process complex medical imaging data.
  - Developed innovative model architectures incorporating channel attention mechanisms and Dice loss functions.
  - Demonstrated a significant improvement over baseline models, contributing to advancements in medical data analysis.

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## PUBLICATIONS/WORKS IN PROGRESS

### ADOPTING CROSS CHANNEL COMMUNICATION BLOCK in to the GENERATIVE ADVERSARIAL NETWORK (GAN) for DENOISING of LOW DOSE CT IMAGES

November 2023 - Present

(Submitted to Hindawi for publication)

- Currently in progress for publication with my advisor, this work presents an enhanced GAN model incorporating Cross-Channel Communication Blocks, achieving significant improvements over the DU-GAN baseline

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## SKILLS SUMMARY

**Language:** Python, SQL, Java, javascript  
**Libraries:** React  
**Framework:** Pandas, Matplotlib, Numpy, Scikit-Learn, TensorFlow, pytorch, Flask, Django, Flutter  
**Tools:** MySQL, Power BI, Excel, PowerPoint, Tableau, Streamlit, Git, GitLab, GitHub  
**Platforms:** Jupyter Notebook, PyCharm, Google Colab, Visual Studio Code, Azure, AWS  
**Soft Skills:** Excellent Communication, Problem-solving, Time management, Team collaboration

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## WORK EXPERIENCE

### ChipChip

April 2024 - Present

#### AI Engineer

- Developed KPI dashboards using Streamlit, Python, and SQL, enhancing business performance insights.
- Built market price analysis and comparison dashboards. Implemented prediction models with regression techniques and LSTM for trend forecasting.
- Driving strategic decisions.
- Created Power Apps for surveys and data collection to enhance organizational data management.

### Nedamco - Africa

February, 2023 - March, 2024

#### Junior cloud specialist (Remote)

- Supported cloud infrastructure deployment and management on AWS and Azure platforms.
- Optimized resource allocation, enhanced security protocols, and automated processes to improve efficiency and reduce costs.

### Icog Labs

August, 2023 - October, 2023

#### Machine Learning Contributor (Intern)

- Collaborated on AI-based projects aimed at solving global challenges for non-profit organizations.
  - Contributed to the development and implementation of machine learning models for various use cases.
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## PROJECTS

### Predictive Analytics Using Financial News Data

September 2024

- This project focuses on the detailed analysis of a large corpus of financial news data to discover correlations between news sentiment and stock market movements.

github: [https://github.com/Tihetna1891/nova-financial-analysis\\_2](https://github.com/Tihetna1891/nova-financial-analysis_2)

### Forecasting Oil Price Trends Using Machine Learning

November 2024

- Conducted a comprehensive data-driven analysis to investigate the correlation between significant geopolitical events and fluctuations in Brent oil prices. Utilized advanced data mining and statistical techniques to identify key factors influencing price volatility. Developed predictive models to forecast future oil price trends based on historical data and real-time event analysis.

github: [https://github.com/Tihetna1891/Brent\\_Oil\\_PriceEventAnalysis/](https://github.com/Tihetna1891/Brent_Oil_PriceEventAnalysis/)

November 2024

### Time Series Forecasting for Financial Portfolio Management

- Contributed to the development of advanced time series forecasting models to predict market trends and optimize investment portfolios. Leveraged real-time financial data from YFinance to analyze historical patterns and identify potential future market movements. Developed and implemented data-driven strategies to enhance portfolio performance and mitigate risk.

github: <https://github.com/Tihetna1891/GMF-Financial-Analysis>

**October 2024**

### **Building a Data Warehouse for Ethiopian Medical Business Insights**

- Designed and implemented a robust data warehouse to store and analyze data on Ethiopian medical businesses scraped from Telegram channels and the web. Developed efficient data scraping and extraction pipelines to collect relevant information. Implemented data cleaning and transformation processes to ensure data quality and consistency. Integrated object detection capabilities using YOLO to enhance data analysis and extract valuable insights from images and videos. Established an ETL framework to automate data ingestion and processing. Successfully delivered a scalable and reliable data warehouse solution that empowers data-driven decision-making for businesses in the Ethiopian medical sector.

**github:** <https://github.com/Tihetna1891/ethiopia-medical-data-scraper>

**October 2024**

### **Credit Scoring Model for Buy-Now-Pay-Later Service**

- Developed a robust credit scoring model to assess the creditworthiness of customers for a new buy-now-pay-later service at Bati Bank. Leveraged historical customer data and industry best practices to identify relevant features and build predictive models. Implemented advanced statistical techniques and machine learning algorithms to accurately predict default risk and optimize loan parameters. Aligned the model development process with Basel II Capital Accord guidelines to ensure regulatory compliance and risk mitigation.

**github:** [https://github.com/Tihetna1891/Bati\\_Bank\\_Credit\\_Score\\_Model](https://github.com/Tihetna1891/Bati_Bank_Credit_Score_Model)

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## **CERTIFICATIONS**

**Microsoft Certified: Azure Fundamentals**

**April 2023**

**AWS Certified: AWS Certified Cloud Practitioner**

**January 2023**

**NVIDIA Certified: Fundamentals of Deep Learning**

**January 2022**

**Coursera: Supervised Machine Learning: Regression and Classification**

**October 2022**

**Coursera: Deep learning**

**October 2022**