Engr. Allan Emmanuel B. Umali, ECE, ECT

+63 947 568 7677 | allanemmanuelumali@gmail.com | Manila, Philippines

linkedin.com/in/emsumali | Q1 Research Publication

Professional Summary

AI Engineer and MS Data Science candidate with 5+ years of technical experience, specializing in **Generative AI, Large Language Models (LLMs), and MLOps**. Proven track record in architecting **Retrieval-Augmented Generation (RAG)** systems, **autonomous agentic workflows**, and production-grade data pipelines. Expert in bridging the gap between complex AI architectures and business value, demonstrated by leading high-impact technical workshops for enterprise clients (Globe Telecom, NVIDIA, DOST).

Work Experience

Supervaise, Inc.   **Pasay City, Philippines**
Artificial Intelligence Engineer   *Jan 2025 – Present*

- **MLOps Automation:** Engineered a production pipeline using **Python** that eliminated **90% of manual training workflows**, enabling reliable model deployment in a 24/7 operations environment.
- **Pipeline Optimization:** Re-architected a critical data processing system, reducing runtime from **108.6s to 11.2s (90% improvement)** via multi-threaded architecture, significantly accelerating data availability.
- **Production Deployment:** Deployed a **License Plate Recognition (LPR)** system achieving **98% data accuracy** with robust **AWS (S3, DynamoDB)** integration; success led to a 5-branch nationwide expansion.
- **QA Tool Engineering:** Delivered Version 2.0 of a QA tool, implementing intelligent data parsing that eliminated **88% of false record inflation**, ensuring absolute data integrity for audit workflows.
- **Technologies:** Python, AWS (Lambda, S3, DynamoDB), SQL, OpenCV, Git, MLOps Pipelines

De La Salle University, Intelligent Systems Laboratory   **Manila City, Philippines**
Multiple Roles   *Jul 2020 – Present*

- **Project Technical Associate II (Jan 2025 - Present):** Co-supervise a team of 8 (undergrads, interns, senior professional) in developing an AI Vehicle Counting system for traffic pattern prediction.
- **Teaching Assistant & Academic Support (Jul 2022 - Present):** Facilitated learning for 500+ students across 7 laboratory sections in C Programming, MATLAB, Machine Learning, GitHub. And Canvas LMS.
- **Research Assistant (2020 - May 2024):** Supported Q1 publication research in smart shelf customer behavior tracking, contributing to the development of novel AI/ML System Applications; Led procurement analysis for PHP 300K+ mobile robot project; contributed to active learning and cloud-based annotation research.

Toyota Motor Philippines   **Laguna, Philippines**
Infra-Innovation Enterprise Software Solution Intern   *Jun 2023 – Sep 2023*

- **Automation:** Engineered 10+ **RPA solutions** (Power Automate) and designed Power BI dashboards, reducing manual reporting workload by **80%**.
- **Technologies:** Power BI (DAX), Power Automate Desktop, Azure Active Directory, WhatsUp Gold

Featured AI & LLM Projects

RAG-Based Multimodal Chatbot   **BGC, Philippines**
Thinking Machines Portfolio   *Dec 2025*

- **Architected a production-ready RAG pipeline** capable of processing multimodal PDFs (text, tables, images) using agentic chunking and a 9-stage processing workflow.
- **Engineered sub-second retrieval performance** by integrating **GPT-4o-mini vision** and **GPT-3.5-Turbo** with **ChromaDB**, ensuring grounded source citations to strictly prevent AI hallucination.
- **Deployed via Docker** with 80%+ code coverage using `pytest`, featuring a **Streamlit UI** with real-time cost tracking for non-technical users.
- **Technologies:** Python, LangChain, ChromaDB, OpenAI API, Docker, Pytest, Streamlit

Autonomous Agentic Job Application System   *Aug - Sep 2025*

- **Designed an autonomous agentic system** that processes 100-200 complex tasks daily, utilizing **Claude LLM** for reasoning and task decomposition.
- **Implemented multi-step agent logic** to handle web scraping and form submission, successfully bypassing anti-detection blocks with a 95% success rate.
- **Democratized access** by building a user-friendly GUI (tkinter), allowing non-programmers to manage complex prompt queues without coding knowledge.
- **Technologies:** Python, Claude LLM (Anthropic API), Playwright, Flask, Tkinter, Selenium

HARAYA AI Fintech Platform   **Makati City, Philippines**
BPI Datawave Hackathon 2025   *Sep 2025*
- **Led the development** of "KapwaScore," an AI-driven cultural intelligence engine designed to financialize 37.6M unbanked Filipinos.
- **Generated 1,000+ synthetic profiles** to validate 4 machine learning algorithms, demonstrating robust model training capabilities.
- **Technologies:** Python, Scikit-learn, Pandas, Synthetic Data Generation, Git

AI Enablement & Training Leadership

EpiMetrics (via Supervaise, Inc.)   **Nationwide, Ph**
Technical Support & Co-Facilitator   *Oct - Nov 2025*
- Co-facilitated **Design Thinking** workshops for 250+ public health stakeholders (DOH, PhilHealth) to validate technical dashboard effectiveness.
- **Technologies:** Design Thinking Frameworks, Technical Requirement Gathering

Globe Telecom AI for HR Enterprise Workshop (via Supervaise, Inc.)   **BGC, PH**
Primary Teaching Assistant & AI Solutions Developer   *Sep 2025*
- Architected a custom **Prompt Composer toolkit** and "FlexBen Coach" AI assistant (5+ versions) for 90+ HR professionals, driving enterprise-wide GenAI adoption.
- **Technologies:** Prompt Engineering, LLM APIs, Custom AI Tooling

NVIDIA AI Philippines (NVIDIA AI PH) (via Supervaise, Inc.)   **Nationwide, PH**
Founding Team Member & Technical Lead   *Oct 2022-Present*
- **Community Scale:** Co-founded and led the technical direction for a nationwide AI community, scaling it to **2,000+ subscribers**.
- **Revenue Generation:** Orchestrated digital infrastructure and operations for high-impact workshops, generating **PHP 250k-300k in revenue**.
- **Analytics Dashboarding:** Developed **Power BI** dashboards to analyze community engagement and financial metrics across 10+ dimensions.
- **Technologies:** Power BI (DAX), Discord Community Management, Excel, Digital Operations Stack

TechShake AI Executive Workshop (via Supervaise, Inc.)   **Ortigas, PH**
Teaching Assistant & Materials Developer   *Oct 2025*
- Designed AI decision-support modules for **C-suite executives** (BDO, Bounty Fresh), focusing on strategic workflow automation.
- **Technologies:** Generative AI Strategy, Workflow Automation Tools

DOST Calabarzon AI Enablement Workshop (via Supervaise, Inc.)   **Batangas, PH**
Teaching Assistant & Materials Developer   *Jul 2025*
- Developed a 4-module curriculum on **Prompt Engineering** and **RAG** methodologies for 40-50 senior government officials; engineered a stateful AI workflow reducing manual encoding by **80%+**.
- **Technologies:** RAG Architecture, Python, Prompt Engineering

Education

De La Salle University   **Manila, Philippines**
Master of Science in Data Science   *Sep 2025 – Present (2nd Term)*
De La Salle University   **Manila, Philippines**
Bachelor of Science in Electronics and Communications Engineering, Minor in Applications Development   *Sep 2019 – Dec 2023*
- ECE/ECT Licensure: 85.70% | Q1 Scopus-Index Publication | National IECEP Champion 2022
- IECEP Regionals 2nd Runner Up | Jose Rizal Honor | 6-time Dean's Lister | Gold Thesis Nominee
- Broadkast ng Talino Participant (2022 & 2023) | DLSU Quizzer Representative | SmartEdge ECE Review Specialist Scholar

University of Santo Tomas - Angelicum College   **Manila, Philippines**
Science, Technology, and Mathematics Track   *Jun 2017 – May 2019*
- Best Thesis Nominee | Team Captain Philippine Robothon 2018
- International Robothon 2017 Programming Distinction Award

Key Technological Skills

- **Generative AI & LLMs:** Python (Expert), LangChain, RAG Architecture, Agentic Systems, Prompt Engineering, OpenAI/Claude/Gemini APIs, Vector Databases (ChromaDB), Amazon Bedrock.
- **MLOps & Cloud:** AWS (Lambda, S3, DynamoDB), Docker, Git, Pytest, SQL, Systemd.
- **Data Science & ML:** PyTorch, scikit-learn, Pandas, NumPy, Computer Vision (YOLO, CVAT), Power BI (DAX).

Selected Projects, Awards, & Achievements

BPI Datawave Hackathon 2025 - HARAYA AI Fintech Platform (Team Lead & Technical Architect): Led team to develop an AI-powered cultural intelligence fintech platform for 37.6M unbanked Filipinos using 4 ML algorithms.

Q1 Research Publication (MDPI Sensors 2024): Co-authored "Smart Shelf System for Customer Behavior Tracking in Supermarkets." (8,600+ views, 7 citations).

National IECEP Quiz Show Champion 2022: Competed against top universities from every Philippine region.

Regional 2nd Runner-Up IECEP-MSC 2022 - Competed against universities from Manila for national qualifiers

Jose Rizal Honor – 6-time Consistent Dean's Lister: Sustained academic excellence (3.0+ GPA) across multiple terms

Gold Undergraduate Thesis Nominee: Smart Shelf System for Customer Behavior Tracking in Supermarkets

Smart Edge ECE Review Specialist Scholar: Consistent Top 5-22 placer in review center

Broadkast ng Talino Participan (2022 & 2023): Representative Quizzer for De La Salle University (DLSU)

Selected Organization & Leadership Experience

De La Salle University Winner's Circle	**Manila, Philippines**
Representative Quizzer for DLSU	*2022 - Dec 2024*

- **National Champions** IECEP Nationals 2022 | 2nd Runner-Up IECEP-MSC Regionals 2022
- 2-time Broadkast ng Talino Participant

Society of Young Engineers (SYNTAX)	**DLSU, Manila, PH**
Documentation Officer	*2019 - 2021*

- Created 12+ reviewers achieving 30k+ downloads, **supporting 1,000+ students**.

Institute of Electronics Engineers of the Philippines	**Manila Chapter**
Registered ECE and ECT	*Oct 2024 - Present*

- Networked with ECE professionals across the Philippines.

Certifications

NVIDIA Deep Learning Institute: Building LLM Applications With Prompt Engineering (Jan 2025), Fundamentals of Deep Learning (Sep 2022)

DataCamp: Intermediate Python, Supervised Learning with scikit-learn, Introduction to Python/SQL, AWS Concepts (Feb-Mar 2025)

DOST-COARE: High Performance Computing Training.

MATLAB — MathWorks: Linear Algebra, Introduction to Symbolic Math, MATLAB Onramp (Mar 2021)

Research Publication

Jose, J.A.C.; Bertumen, C.J.B.; Roque, M.T.C.; **Umali, A.E.B.;** Villanueva, J.C.T.; TanAi, R.J.; Sybingco, E.; San Juan, J.; Gonzales, E.C. "Smart Shelf System for Customer Behavior Tracking in Supermarkets," in *MDPI Sensors: Deep Learning for Information Fusion and Pattern Recognition* **2024**, 24, 367. https://doi.org/10.3390/s24020367

References

Dr. John Anthony Jose – CTO, Supervaise Inc. – DLSU Professor — Email & Contact Number Available Upon Request

Mark Velasco – AI Engineer — Email & Contact Number Available Upon Request

Jefferson Keh – AI/ML Full Stack Engineer — Email & Contact Number Available Upon Request

Notable Certifications

- **NVIDIA-DLI Certificate of Competency: Building LLM Applications with Prompt Engineering**

NVIDIA.

Certificate of Competency

This certificate is awarded to

Allan Emmanuel Umali

for demonstrating competence in the completion of
Building LLM Applications With Prompt Engineering

Greg Estes
Vice President, NVIDIA

Issue Date: : January 23, 2025
Certification ID: URtnTJt2QLOFmdfh8guTUw

- **DOST-COARE: High Performance Computing (Online) Training**

Republic of the Philippines
DEPARTMENT OF SCIENCE AND TECHNOLOGY
ADVANCED SCIENCE AND TECHNOLOGY INSTITUTE

COARE
COMPUTING AND ARCHIVING RESEARCH ENVIRONMENT

CERTIFICATE OF PARTICIPATION

is hereby presented to

ALLAN EMMANUEL UMALI

for attending the **High-Performance Computing (Online) Training**
organized by the DOST-Advanced and Science and Technology Institute's
Computing and Archiving Research Environment (COARE) Team
on **July 16, 2025, from 9:00 AM to 5:00 PM**.

FRANZ A. DE LEON, Ph.D.
Director

- **ECE Licensure Examination**

Full Name:	UMALI, ALLAN EMMANUEL BORABIEN
Application No:	020696
Mathematics :	89.00
Electronics Engineering :	83.00
Electronic Systems and Technologies :	84.00
General Engineering and Applied Sciences :	89.00
Average:	**85.70**
Remarks:	**PASSED**

- **Jose Rizal 2nd Honors Certificate**

- **NVIDIA-DLI Certificate of Competency A: Fundamentals of Deep Learning** - November 2022

- **Q1 Journal Publication**

- **Gold Thesis Award Nominee**

- **Data Science Bootcamp** - June 2023 || **Data Science vs. Data Analytics** - May 2023

Datamites
Global Institute for Data Science

CERTIFICATE

This is to certify that

Allan Emmanuel

has attended

Data Science Bootcamp

Conducted on: 29th June 2023

Kamakshi Chemukula
Director

DataMites is Accredited by International Association of Business Analytics (IABAC®)

Datamites
Global Institute for Data Science

CERTIFICATE

This is to certify that

Allan Emmanuel

has attended

Data Science vs Data Analytics

Conducted on: 30th May 2023

Kamakshi Chemukula
Director

DataMites is Accredited by International Association of Business Analytics (IABAC®)

● **Broadkast ng Talino / "Broadcast of Intelligence" Participant** - April 2023

TECHNOLOGICAL UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
Department of Electronics Engineering
Organization of Electronics Engineering Students

This

CERTIFICATE OF

PARTICIPATION

is presented to:

UMALI, ALLAN EMMANUEL B.

For participating in this year's Brodkast ng Talino with the theme:
"PHASES: Waves of Intellectual Competence Emerging in Cycles of Excellence"

Given this 24th day of April in the year 2023 at ZOOM, live via Facebook.

PAULO JR. M. MONTEJO
President, OECES

ENGR. JOHN PETER M. RAMOS
Adviser, OECES

ENGR. CHERRY G. PASCION
Adviser, OECES

ENGR. TIMOTHY M. AMADO
Head, Electronics Engineering Department

ENGR. NILO M. ARAGO
Dean, College of Engineering

● **Broadkast ng Talino / "Broadcast of Intelligence" Participant** - May 2022

Technological University of the Philippines
Electronics Engineering Department

This

CERTIFICATE
OF PARTICIPATION

is hereby presented to

Allan Emmanuel B. Umali

For his/her active and invaluable participation during the
Brodkast ng Talino 2022 with the theme
TELEMETRY: Transmitting Intelligence Over Great Distances
Given this 28th day of May 2022.

FRANCIS MATTHEW NAVAL
EVENT HEAD, BNT 2022

JOHN MICHAEL TARASONA
PRESIDENT, OECES

ENGR. CHERRY G. PASCION
ADVISER, OECES

ENGR. TIMOTHY M. AMADO
HEAD, ELECTRONICS
ENGINEERING DEPARTMENT

ENGR. NILO M. ARAGO
DEAN, COLLEGE OF
ENGINEERING

- **Library Research Training: Ethical and Scholarly Use of Sources Using Mendeley and Turnitin**
  T2 A.Y. 2020-2021

DE LA SALLE UNIVERSITY MANILA | Libraries

This

CERTIFICATE OF ATTENDANCE

is given to

Allan Umali

for having successfully completed the Library Research Training
(Ethical and Scholarly Use of Sources Using Mendeley and Turnitin), 1.5 hours
for Term 2, A.Y. 2020-2021.

Christine M. Abrigo
Director of Libraries

THIS CERTIFICATE WAS ISSUED ELECTRONICALLY.
If you have any concerns regarding your e-certificate,
kindly send an email to library@dlsu.edu.ph

- **Library Research Training: Finding the Right Information Using AnimoSearch and Google Scholar**
  T2 A.Y. 2020-2021
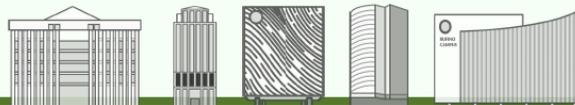
- **MATLAB Linear Algebra Certificate** - 2021

- **MATLAB Introduction to Symbolic Math** - 2021

MathWorks® | Training Services

Progress Report

Name: Allan Emmanuel Umali

Course: Introduction to Symbolic Math with MATLAB

Progress: **100%** complete (as of 11 March 2021)

Chapters

1. Introduction **100%**
2. Creating Symbolic Variables **100%**
3. Mathematical Expressions with Symbolic Variables **100%**
4. Creating and Solving Symbolic Equations **100%**
5. Algebraic Manipulation and Simplification **100%**
6. Working with Assumptions **100%**
7. Working with Units of Measurement **100%**
8. Creating Symbolic Functions **100%**
9. Visualizing Symbolic Functions and Equations **100%**
10. Review Project I **100%**
11. Calculus with Symbolic Math **100%**
12. Review Project II **100%**
13. Next Steps **100%**

Release: R2020b | Language: English

- **MATLAB Onramp Certificate** - 2021

MathWorks® | Training Services

Course Completion Certificate

Allan Emmanuel Umali

has successfully completed **100%** of the self-paced training course

MATLAB Onramp

DIRECTOR, TRAINING SERVICES

11 March 2021