NARDOS TILAHUN DUBALE



SYSTEMS ARCHITECT & SOFTWARE ENGINEER | STRUCTURAL ENGINEER

FULL-STACK PLATFORMS • CLOUD & BACKEND SERVICES • AI INTEGRATION

Addis Ababa, Ethiopia (UTC+3) | Phone: +251 949 494319 | Email: contactnardos@gmail.com

GitHub ↗ - nardosdubale | LinkedIn ↗ - nardosdubale | Portfolio ↗ - nardosdubale.com

PROFESSIONAL SUMMARY

Systems Architect and Software Engineer with an MSc in Computer Science from HiLCoE and extensive experience building full-stack platforms, Java Spring Boot microservices, high-throughput backend runtimes, scalable data systems, and AI-integrated architectures. Focuses on translating complex business requirements into maintainable software systems through explicit API contracts, structured domain data models, transactional consistency, asynchronous processing, and latency optimization. Combines hands-on implementation with systems-level technical governance, emphasizing correctness, reliability, security, and maintainability. Supported by a Computer Science Bridge degree, a BSc in Civil Engineering, and five years of engineering leadership experience.

CORE TECHNICAL COMPETENCIES

Software Architecture:	System Decomposition, Domain-Driven Design, API Contracts, Multi-Tenant Isolation, State Machines
Backend & API Design:	Java (Spring Boot, JPA), Python (FastAPI), Node.js, GraphQL, REST APIs, Webhooks, Event Streams
Frontend Engineering:	Next.js (App Router), React, TypeScript, Component Architecture, Responsive UI, Web Streams
Database & Data Systems:	PostgreSQL (pgvector), MySQL, Redis, MongoDB, Hibernate, Prisma ORM, Query Optimization
AI Engineering & Agents:	Agentic AI, Model Context Protocol (MCP), RAG & Vector Search, Model Routing, Web Streams
Infrastructure & Quality:	Linux, Docker, Maven, CI/CD Automation, Test Suites, Code Review, SWR Caching, Fault Isolation

FEATURED SOFTWARE SYSTEMS

Goal Cracker — AI-Powered Strategic Planning Platform | Lead Systems Architect

Next.js 16 (App Router), TypeScript, Prisma ORM, PostgreSQL (Supabase), Groq AI

goals.nardosdubale.com ↗

- Solves executive decision paralysis by decomposing complex goals into an interactive 5-step recursive roadmap with infinite drill-down hierarchy.
- Eliminates model downtime and hallucination through dynamic model routing across candidate Groq endpoints with strict JSON schema contracts.
- Prevents UI thread freezing during high-velocity inference via an asynchronous Web Stream accumulator that progressively renders live visual mind maps.

ZEE — Enterprise CMS & CRM Platform | Lead Full-Stack Architect

Next.js 15, TypeScript, Prisma ORM, PostgreSQL, Tailwind CSS v4

zeeappliancerepairllc.com ↗

- Eliminates lead drop-off and dispatch friction by integrating an automated customer CRM with online booking, intake triage, and service scheduling.
- Removes developer bottlenecks for content updates via a custom CMS supporting dynamic section reordering, multi-market catalogs, and diagnostic flows.
- Protects booking conversion rates during traffic surges by engineering an on-demand edge caching architecture with instant zero-downtime cache revalidation.

FinCore — Financial Amortization & Ledger Engine | Financial Systems Architect

React, Node.js, Express.js REST API, MySQL 8.0, D3.js Visualizations

Production Engine

- Engineers the end-to-end lending lifecycle, automating loan origination, repayment scheduling, and amortization with exact terminal balance closure.
- Protects ledger integrity during concurrent disbursements and repayments through atomic multi-table transaction blocks that maintain audit trails.
- Streamlines portfolio risk monitoring for loan officers by integrating real-time delinquency tracking, repayment telemetry, and dynamic D3.js analytics.

PROFESSIONAL EXPERIENCE

Production Systems Architecture | Lead Full-Stack & Systems Architect

Addis Ababa, Ethiopia • Enterprise Web Platforms & Systems Design

2023 – Present

- Lead application architecture and full-stack engineering across web platforms, establishing modular system boundaries and scalable cloud runtimes.
- Architect enterprise services utilizing Java Spring Boot, FastAPI, and Node.js with resilient connection pooling, edge caching, and event-driven pipelines.
- Direct engineering pods through architectural evaluations, code reviews, and CI/CD testing gates to ensure system reliability and maintainable delivery.

General Construction & SIS Engineering PLC | Civil Structural Engineer & Contractor

Addis Ababa, Ethiopia • Commercial & High-Rise Infrastructure

2016 – 2021

- Directed structural engineering calculations and construction supervision for commercial and high-rise building projects.
- Coordinated multidisciplinary teams, technical decisions, and operational risks in demanding engineering environments.

EDUCATION

MSc in Computer Science (3.95 CGPA) | HiLCoE (2023–2025)
Thesis: Lightweight Project Management Framework for Construction Firms
Core Focus: Systems Architecture, Database Technology, Network Security, NLP.

Computer Science Bridge Degree (4.00 CGPA) | HiLCoE (2021–2023)
Project: Construction Management Software (CS600, 6 Credits, Grade A)
Core Focus: Data Structures, Operating Systems, Object-Oriented Design.

BSc in Civil Engineering (3.84 CGPA) | Jimma Univ (2012–2016)
Capstone: Structural Design of 2B+G+12 High-Rise with Wind/Seismic Modeling
Core Focus: Structural Mechanics, Applied Mathematics, Finite Elements.

CERTIFICATIONS & LICENSE

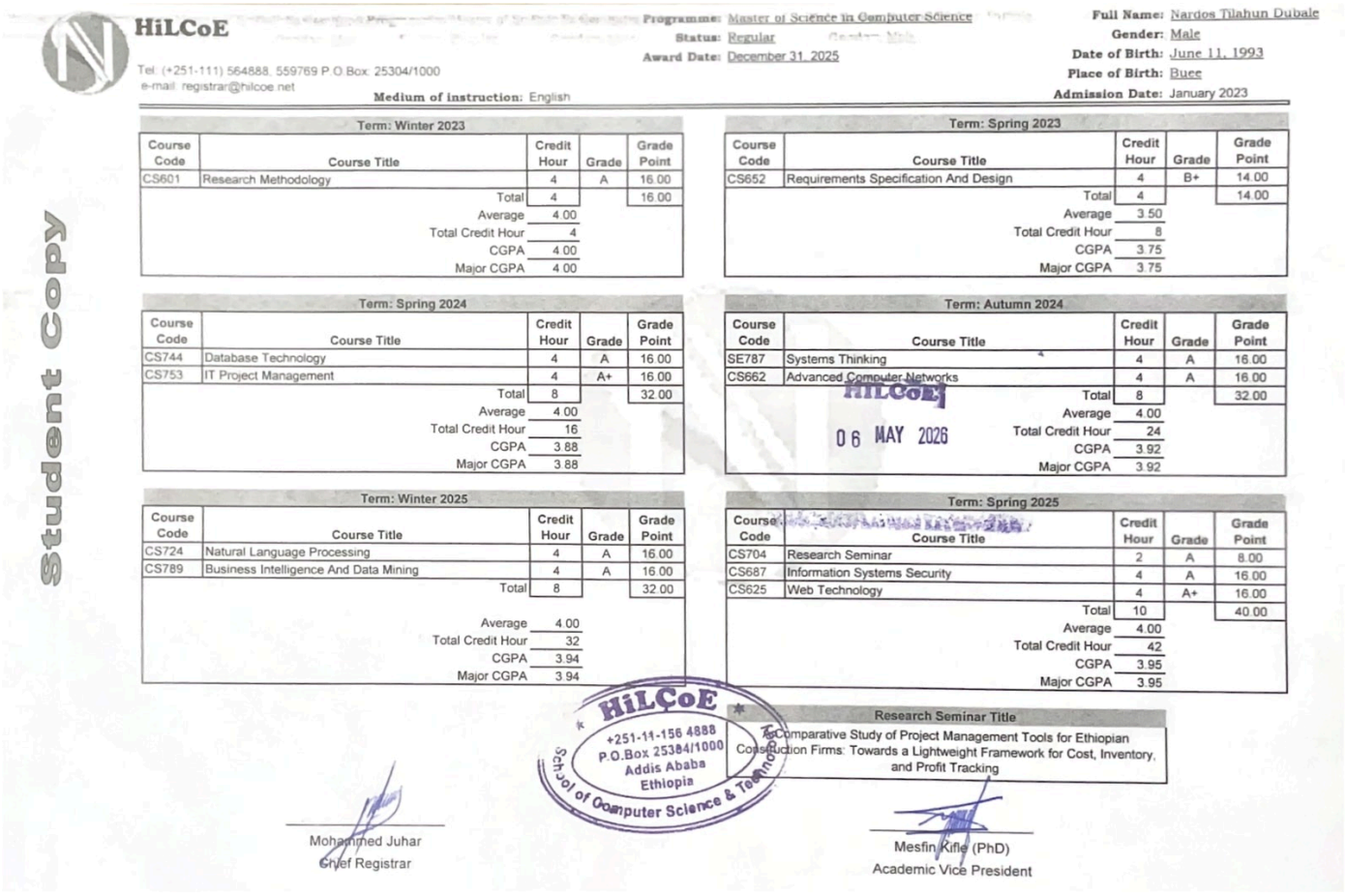
- **ALX Software Engineering (Backend Systems)**
  12-Month Specialization • ID: 2JNLrSm5yY
- **ALX AI Starter Kit (Agentic Systems)**
  Workflow Engineering • ID: pf7ncHxyeN
- **Generative AI with AWS (Udacity)**
  AWS Bedrock Technologies • Verified
- **Data Analysis Nanodegree (Udacity)**
  Data Wrangling & Analytics • Verified
- **Full Stack MERN Program (Evangadi)**
  1,500+ Hours Coursework • ID: EV-MERN-2025
- **Practicing Professional Structural Engineer (PPSTE)**
  City Govt Construction Authority • Reg: PPSTE/5378

Certified Dossier & Official Academic Transcripts
10 certified degree transcripts, ALX/Udacity certificates, and PPSTE license attached on pages 2–11.

Online Verification ↗

Master of Science in Computer Science Academic Record
HiLCoE School of Computer Science & Technology • Awarded December 31, 2025

Research Seminar: Construction Project Management Framework



HiLCoE

Tel: (+251-111) 564888, 559769 P.O.Box: 25304/1000
e-mail: registrar@hilcoe.net

Programme: Master of Science in Computer Science
Status: Regular
Award Date: December 31, 2025
Medium of instruction: English

Full Name: Nardos Tilahun Dubale
Gender: Male
Date of Birth: June 11, 1993
Place of Birth: Buee
Admission Date: January 2023

Student Copy

Term: Winter 2023

Course Code	Course Title	Credit Hour	Grade	Grade Point
CS601	Research Methodology	4	A	16.00
	Total	4		16.00
	Average	4.00		
	Total Credit Hour	4		
	CGPA	4.00		
	Major CGPA	4.00		

Term: Spring 2023

Course Code	Course Title	Credit Hour	Grade	Grade Point
CS652	Requirements Specification And Design	4	B+	14.00
	Total	4		14.00
	Average	3.50		
	Total Credit Hour	8		
	CGPA	3.75		
	Major CGPA	3.75		

Term: Spring 2024

Course Code	Course Title	Credit Hour	Grade	Grade Point
CS744	Database Technology	4	A	16.00
CS753	IT Project Management	4	A+	16.00
	Total	8		32.00
	Average	4.00		
	Total Credit Hour	16		
	CGPA	3.88		
	Major CGPA	3.88		

Term: Autumn 2024

Course Code	Course Title	Credit Hour	Grade	Grade Point
SE787	Systems Thinking	4	A	16.00
CS662	Advanced Computer Networks	4	A	16.00
	Total	8		32.00
	Average	4.00		
	Total Credit Hour	24		
	CGPA	3.92		
	Major CGPA	3.92		

HiLCoE
06 MAY 2026

Term: Winter 2025

Course Code	Course Title	Credit Hour	Grade	Grade Point
CS724	Natural Language Processing	4	A	16.00
CS789	Business Intelligence And Data Mining	4	A	16.00
	Total	8		32.00
	Average	4.00		
	Total Credit Hour	32		
	CGPA	3.94		
	Major CGPA	3.94		

Term: Spring 2025

Course Code	Course Title	Credit Hour	Grade	Grade Point
CS704	Research Seminar	2	A	8.00
CS687	Information Systems Security	4	A	16.00
CS625	Web Technology	4	A+	16.00
	Total	10		40.00
	Average	4.00		
	Total Credit Hour	42		
	CGPA	3.95		
	Major CGPA	3.95		

HiLCoE
+251-11-156 4888
P.O.Box 25384/1000
Addis Ababa
Ethiopia
School of Computer Science & Technology

Research Seminar Title
A Comparative Study of Project Management Tools for Ethiopian Construction Firms: Towards a Lightweight Framework for Cost, Inventory, and Profit Tracking

Mohammed Juhar
Chief Registrar

Mesfin Kifle (PhD)
Academic Vice President

HiLCoE
School of Computer Science & Technology

P.O.Box 25304/1000
Addis Ababa
Ethiopia

Grade Report for Bridging Courses

Name of Student: Nardos Tilahun Dubale

Academic Program: Bridging program leading to MSc in computer Science or Software Engineering (from Sept. 2022 to Dec. 2023)

Course Code	Course Title	Credit Hour	Grade
CS510	Information Systems	4	A
CS530	Problem Solving With Programming I	4	A+
CS531	Problem Solving With Programming II	4	A+
CS532	Object Oriented Programming And Design	4	A+
CS551	Data Structures And Algorithm Analysis	4	A+
CS552	Database Management Systems	4	A
CS555	Web Design & Development	4	A
CS563	Fundamentals Of Operating Systems And Networking	4	A
CS600	Software Engineering Project	6	A

CGPA: 4.00

Abdella Endris
Academic Programme Director

HiLCoE
+251-11-156 4888
P.O.Box 25304/1000
Addis Ababa
Ethiopia
School of Computer Science & Technology

Tel: (251)111564888, 0111-564900
Email: info@hilcoe.net

JIMMA UNIVERSITY

STUDENT ACADEMIC RECORD

OFFICE OF REGISTRAR
P.O.Box 378 Jimma, Ethiopia
Faculty: **Institute of Technology**

Degree Awarded: **B.Sc Thursday, June 30, 2016**
Department: **Civil Engineering**
Medium of Instruction: **English**
Minor: -

Full Name: **NARDOS TILAHUN DUBALE** Date of Birth: **1993 G.C.** Admission Classification: **Regular**
ID Number: **02726/04** Sex: **M** From:

STUDENT COPY

Course No	Course Title	Cr. Hour	Grade	Gr. Point
	Admitted to B.Sc in Pre Engineering(Regular)			
	First Semester 2011/12			
CENG 1011	ENGINEERING MACHANICS(STATICS)	3	B+	10.5
CVET 201	CIVICS AND ETHICS	3	A-	11.25
EENG 1001	INTRODUCTION TO ENGINEERING	2	A	8
ENLA 201	COMMUNICATIVE ENGLISH SKILLS	3	A-	11.25
MATH 131	APPLIED MATHEMATICS I	4	A	16
MENG 1033	ENGINEERING DRAWING	3	A+	12
SPSC 201	PHYSICAL FITNESS AND SPORT SKILLS	0	P	0
	Semester Average: 3.83	18		69
	Transferred to B.Sc in Civil Engineering(Regular)			
	Second Semester 2011/12			
CENG 1012	STRENGTH OF MATERIALS	4	B+	14
CENG 1014	WORKSHOP PRACTICE AND EXCURSION	1	A	4
ECON 101	PRINCIPLES OF ECONOMICS	3	A-	11.25
ENLA 202	BASIC WRITING SKILLS	3	A-	11.25
MATH 132	APPLIED MATHEMATICS II	4	A	16
MENG 1062	ENGINEERING MECHANICS(DYNAMICS)	3	A-	11.25
STAT 262	INTRODUCTION TO PROBABLITY AND STATISTICS	3	A-	11.25
TCBTP 1001	DEMOGRAPHIC SURVEY	3	A	12
	Semester Average: 3.79	24		91
	Cumulative Average: 3.81	42		160
	First Semester 2012/13			
CENG 2011	COMPUTER PROGRAMMING	3	A	12
CENG 2033	SURVEYING I	3	A	12
CENG 2041	THEORY OF STRUCTURRE I	3	A	12
CENG 2061	CONSTRUCTION MATERIALS	3	A	12
MATH 231	APPLIED MATHEMATICS III	4	A	16
PHIL 201	LOGIC AND REASONING SKILL	3	B+	10.5
WREE 1070	HYDRAULICS I	3	A	12
	Semester Average: 3.93	22		86.5
	Cumulative Average: 3.85	64		246.5
	Second Semester 2012/13			
CENG 2012	NUMERICAL METHODS	3	A-	11.25
CENG 2034	SURVEYING II	3	A-	11.25
CENG 2042	THEORY OF STRUCTURE II	3	A	12
CENG 2054	SOIL MECHANICS I	3	A	12
CENG 2062	BUILDING CONSTRUCTION	3	A-	11.25
TCBTP 2002	APPROPRIATE TECHNOLOGIES	3	A-	11.25
WREE 2071	HYDRAULICS II	3	A-	11.25
	Semester Average: 3.82	21		80.25
	Cumulative Average: 3.84	85		326.75
	First Semester 2013/14			
CENG 3041	REINFORCED CONCRETE STRUCTURES I	3	A	12
CENG 3055	SOIL MECHANICS II	3	A-	11.25
CENG 3063	FUNDAMENTAL OF ARCHITECTURE	2	A	8
CENG 3073	ENGINEERING HYDROLOGY	3	A-	11.25
CENG 3083	TRANSPORT ENGINEERING	3	C	6
TCBTP 3001	IMPLEMENTATION PHASE	2	A	8
WREE 2072	OPEN CHANNEL HYDRAULICS	3	A	12
	Semester Average: 3.61	19		68.5
	Cumulative Average: 3.80	104		395.25
	Second Semester 2013/14			
CENG 3035	SURVEYING FIELD PRACTICE	2	A-	7.5
CENG 3042	REINFORCED CONCRETE STRUCTURE II	3	B+	10.5

Grading System: A=Excellent, B=Good, C=Satisfactory, D=Unsatisfactory, F=Failing I=Incomplete, DO=Dropout,**Project/Senior Paper, Ex=Exempted, NG=No Grade ,P=Pass
Points A=4, B=3,C=2,D=1,F=0 One class hour, or 2-3 laboratory hours per week for 16 weeks=one Semester hour or credit. *Course Repeated,TR-Credit Transfer
THE TRANSCRIPT IS OFFICIAL ONLY WHEN SIGNED AND SEALED BY THE REGISTRAR.

Full Name: **NARDOS TILAHUN DUBALE**
ID Number: **02726/04**

Course No.	Course Title	Cr. Hour	Grade	Gr. Point
CENG 3054	ENGINEERING GEOLOGY	2	A	8
CENG 3056	FOUNDATION ENGINEERING I	3	A-	11.25
CENG 3064	AUTO CAD IN CICIL ENGINEERING	3	A	12
CENG 3084	HIGHWAY ENGINEERING I	3	A	12
CENG 3092	INTEGRATED CIVIL ENGINEERING DESIGN I	3	A	12
	Semester Average: 3.86	19		73.25
	Cumulative Average: 3.81	123		468.5
	First Semester 2014/15			
CENG 4043	STEEL &TIMBER STRUCTURE	3	A	12
CENG 4057	FOUNDATION ENGINEERING II	3	A	12
CENG 4085	HIGHWAY ENGINEERING II	3	A	12
CENG 4093	INTEGRATED CIVIL ENGINEERING DESIGN II	3	A-	11.25
ECE 4045	ELECTRICAL INSTALLATION	2	A	8
Wree 4070	HYDROLICS STURACTURE I	3	A	12
WREE 4071	WATER SUPPLY & URBAN DRAINAGE	3	B+	10.5
	Semester Average: 3.89	20		77.75
	Cumulative Average: 3.82	143		546.25
	Second Semester 2014/15			
TCBTP 4002	INTERNSHIP	15	A	60
	Semester Average: 4.00	15		60
	Cumulative Average: 3.84	158		606.25
	First Semester 2015/16			
CENG 5045	STRUCTURAL DESIGN	3	A-	11.25
CENG 5061	CONTRACT SPECIFICATION AND QUANTITY SURVEY	2	A	8
CENG 5101	FUNDAMENTAL OF BRIDGE DESIGN	3	A	12
ENLA 409	TECHNICAL REPORT WRITING AND RESEARCH METHODOLOGY	2	A-	7.5
TCBTP 4001	CBTP IV INTERVENTION PHASE	3	A	12
WREE 5071	HYDRAULIC STRUCTURES II	3	B-	9
WREE 5093	WATER TREATMENT	3	A+	12
WREE 5101	IRRIGATION ENGINEERING	2	A	8
	Semester Average: 3.80	21		79.75
	Cumulative Average: 3.83	179		686
	Second Semester 2015/16			
CENG 5062	CONSTRUCTION EQUIPMENT	2	A	8
CENG 5064	CONSTRUCTION MANGEMENT	3	A	12
CENG 5106	REINFORCED CONCRETE STRUCTURE III	3	A	12
ENGG 5022	ENTREPRENERSHIP I FOR ENGINEERS	2	B	6
SRP 5002	B.Sc. THESIS	6	A	24
	Semester Average: 3.88	16		62
	Cumulative Average: 3.84	195		748

STUDENT COPY

Grading System: A=Excellent, B=Good, C=Satisfactory, D=Unsatisfactory, F=Failing I=Incomplete, DO=Dropout,**Project/Senior Paper, Ex=Exempted, NG=No Grade,P=Pass
Points A=4, B=3,C=2,D=1,F=0 One class hour, or 2-3 laboratory hours per week for 16 weeks=one Semester hour or credit. *Course Repeated,TR-Credit Transfer

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ALX Software Engineering Certificate of Completion
12-Month Specialization in Backend Engineering • Completed February 2025

Credential ID: 2JNLrSm5yY • Verified



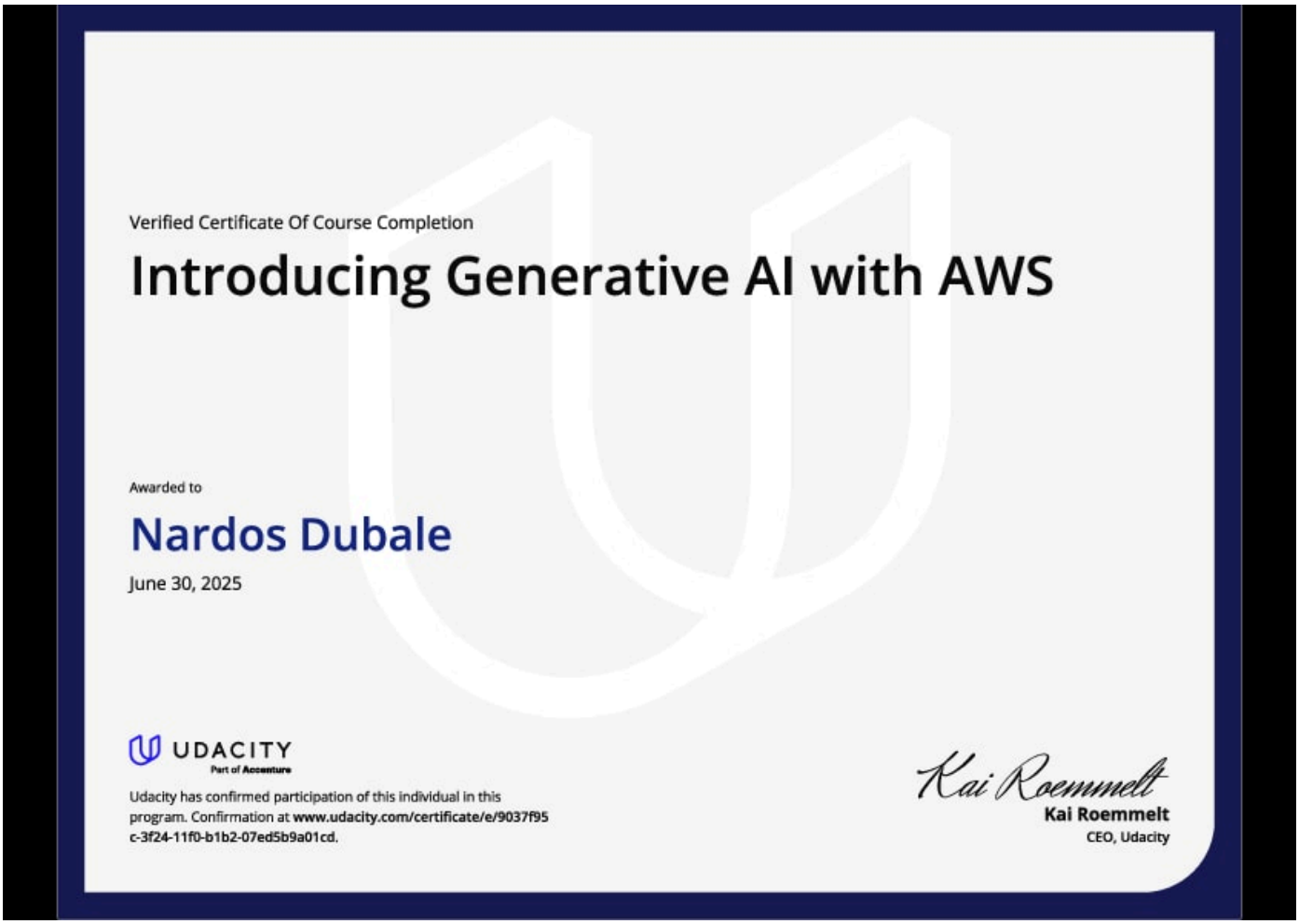
ALX AI Starter Kit Certificate of Achievement
AI Workflow Engineering & Agentic Systems • Completed April 2025

Credential ID: pf7ncHxyeN • Verified



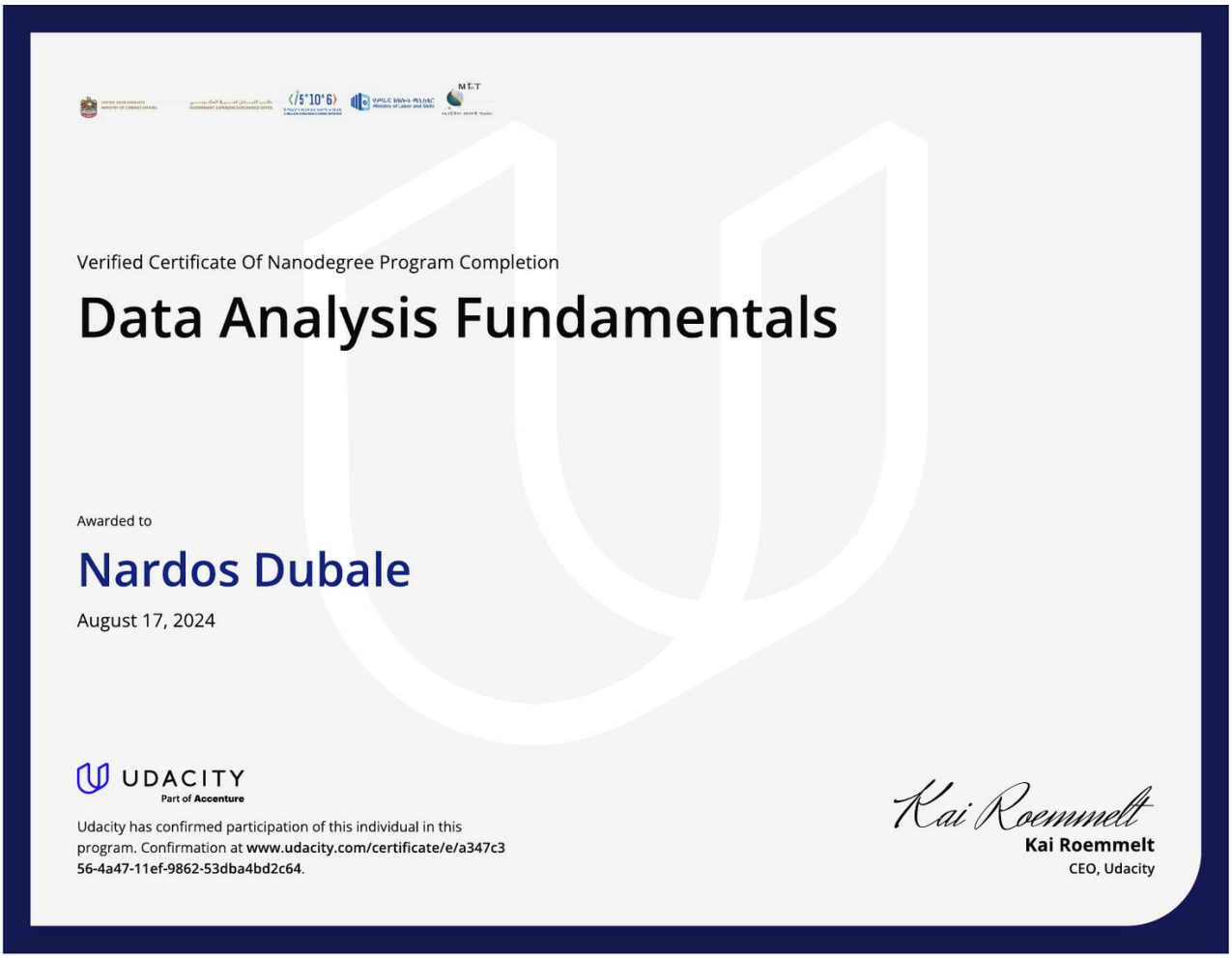
Udacity Certificate of Course Completion
Introducing Generative AI with AWS • Completed June 30, 2025

Credential ID: 9037f95c-3f24-11f0-b1b2-07ed5b9a01cd • Verified



Udacity Nanodegree Program Completion Certificate
Data Analysis Fundamentals • Completed August 17, 2024

Credential ID: a347c356-4a47-11ef-9862-53dba4bd2c64 • Verified



Evangadi Certificate of Completion
Full Stack Web Development (MERN) Program • Completed April 14, 2025

Credential ID: EV-MERN-2025 • Verified



Practicing Professional Structural Engineer (PPSTE) License
City Government of Addis Ababa Construction Permit & Control Authority

Registration No: PPSTE/5378 • Serial: 122/22 • Valid Through Nov 2027

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CITY GOVERNMENT OF ADDIS ABABA
CONSTRUCTION PERMIT & CONTROL AUTHORITY

ISSUING DATE **NOVEMBER 28, 2023** Serial No.

REG. NO: 122/22

THIS IS TO CERTIFY THAT

NARDOS TILAHUN DUBALE

IS REGISTERED AS

Practicing Professional Structural Engineer

BY THE CITY GOVERNMENT OF ADDIS ABABA CONSTRUCTION PERMIT & CONTROL AUTHORITY, BY VIRTUE OF THE AUTHORITY GIVEN TO IT BY SUB ARTICLE 12 OF ARTLCLE 43 OF THE PROCLAMATION NO. 74/2021 PROVIDED FOR THE DEFINITION OF THE POWERS AND DUTIES OF EXECUTIVE ORGANS OF AD DIS ABABA CITY.

IN WITNESS WHEREOF, THE SEAL OF THE AUTHORITY IS HERETO AFFIXED.

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Wondwessen Ashrat Indalilalu
Construction Industry Development &
ISSUING AUTHORITY

REGISTRATION NO. **PPSTE/5378** VALID UP TO **NOVEMBER, 2027**

RENEWED

VALID UP TO 20----	ISSUING AUTHORITY ----------
VALID UP TO 20----	ISSUING AUTHORITY ----------
VALID UP TO 20----	ISSUING AUTHORITY ----------
VALID UP TO 20----	ISSUING AUTHORITY ----------

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Addis Ababa City Administration Building Permit & Control Authority