

# Kenneth Nicholas

## Founder, Data Science, Machine Learning & Artificial Intelligence

📍 Durham, North Carolina, United States

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### SUMMARY

#### Summary:

- \* My expertise encompasses domain industry experience(30 of Fortune 500 companies), mathematics, statistics, machine learning, business analysis, and technology.
- \* With over 25 years of AI/BI/Planning consulting experience, I specialize in aligning business requirements with technology to enhance shareholder value, ROI, performance metrics, and customer satisfaction.
- \* I have deep experience in developing, designing, architecting, and deploying end-to-end AI/Data Science solutions over the last 10 years. I have provided consultancy services to various companies, advising on, developing, and implementing their AI projects and strategies. As an entrepreneur, I have led ventures and built teams to create AI products.
- \* Prior to that, as the owner of a consulting firm, I enhanced the performance metrics of 30 of Fortune 500 companies by selling, assembling teams, designing, architecting, developing, managing, and deploying end-to-end Enterprise Planning and Business Intelligence systems for 15 years using well-known partner products.
- \* I began my career in AI as an AI developer in 2014 and have since diversified my expertise, working as a data scientist, data engineer, AI engineer, cloud engineer, cloud architect, AI architect, prompt engineer, AI manager, and AI leader.
- \* Expert in building and leading high-performing AI teams, fostering a culture of innovation and collaboration to achieve breakthrough results.
- \* Passionate about democratizing AI within the enterprise, with a deep understanding of how AI can empower businesses of all sizes to thrive in the digital economy.
- \* 250 plus certifications and badges in AI and Cloud.
- \* GCP, AWS, Azure, IBM Cloud, OCI experience, professional cloud certifications in Generative AI, Digital Leader, Cloud Engineer, Cloud Architect, Cloud Developer, Security Engineer, DevOps Engineer, Data Engineer, Database Engineer, and Machine Learning Engineer etc.
- \* Can code. build and deploy AI products end-to-end.
- \* Prior to 2005, worked for IBM, JP Morgan Chase, and Unilever.
- \* Engineering degree and MBA.

#### Personality:

- \* Enjoy working 12 to 16 hours a day, 7 days a week.
- \* Other interests include sprinting, meditation, and water fasting.
- \* Exceptionally driven and motivated by challenges and ambitious goals.
- \* Relentlessly focused on delivering high-quality results and exceeding expectations.
- \* Committed to continuous personal and professional development.
- \* Strong advocate for customer satisfaction, always striving to understand and exceed their needs.
- \* Efficient multitasker, able to handle multiple projects with precision and attention to detail.
- \* Enthusiastic about solving complex problems and finding innovative solutions.
- \* Known for a strong work ethic and unwavering dedication to success.

## WORK EXPERIENCE

January 2014-Current

### Freelance AI Consulting. AI Product Development

🏢 SUBMIT-AI INC. AI Consulting

📍 United States

Successfully built and led high-performing machine learning development and engineering teams, fostering a culture of innovation and collaboration.

Led the development and implementation of a comprehensive AI strategy, including defining the AI vision, roadmap, and governance framework. This involved securing executive buy-in and fostering a data-driven culture across the organization.

Deep understanding and experience in distributed systems, MLOps, DevOps, cloud architecture, security, data engineering, databases, cloud development, ML engineering, and responsible AI. Expertise in designing, architecting, and implementing scalable, fault-tolerant AI solutions.

Spearheaded the design, development, and deployment of over 1000 AI/ML models across diverse industries. Tailored AI solutions to manufacturing, retail, finance, technology, and healthcare, resulting in measurable improvements in performance metrics, cost savings, and customer satisfaction.

Designed and implemented models for chatbots, quality control, equity trading, inventory control, risk mitigation, loan default, asset management, disease identification, employee retention, threat identification, face recognition, object detection, object segmentation, and image captioning.

Designed and implemented AI safety and guardrails. Proficient in articulating the value proposition of complex data and AI solutions to both technical and business audiences, securing buy-in from key stakeholders.

Possess a deep understanding of the data and AI market, including emerging trends and technologies. Proven track record of identifying and characterizing business issues, leveraging AI solutions to generate actionable insights and recommendations that drive measurable business value.

Exceptional communication skills, both written and verbal, to effectively convey complex technical concepts to diverse audiences, including C-level executives.

Proven ability to identify and translate business challenges into actionable AI projects.

As a contractor, contributed to developing facial recognition for a top cell phone company in 2017, a chatbot for a top bank in 2016, and assisted a multi-trillion asset manager in setting up a machine learning operation and identifying AI use cases in 2018.

Developed advanced computer vision techniques in 2019 to accurately identify and diagnose diseases from medical imaging and other visual data.

Coded and developed over 100 AI algorithms for a proprietary AI-focused app for making profitable equity trading decisions.

Mentored and guided PhD and graduate students.

Worked on pilots for generative AI apps, various closed and open LLM, fine tuning, LoRA, RLHF, LangChain, Advanced RAG, Vector Search, and prompt engineering, among others.

Demonstrated ability to collaborate with solutions architects and product teams to develop winning proposals, pitches, and SOWs tailored to client needs. Cultivated and managed a robust ecosystem of partners to deliver customized AI solutions that address specific customer challenges

1999-2024

### Technology Skills

🏢 Various

📍 United States

Popular ML frameworks, Transformer models from scratch, LLMs, Generative AI, Traditional ML, Deep Learning, Predictive Modeling, Statistical Analysis, Data Science, MLOps, DevOps, Cloud Architect, Cloud engineer, Machine Learning Engineer, Database Engineer, Data Engineer, Cloud Developer, Security Engineer, Project Mgmt, Team Mgmt, AI Strategy, AI Explanations & Evaluations, Responsible AI, Ethical AI strategies, legal, compliance, and risk management, AI Training AI, Data Warehouse, Data Strategy, Data Privacy, ETL, Data Integration, Data Quality Frameworks, SQL, Database Design, Data Modeling, Data Governance, Data Security, Data Protection Regulations. Digital Transformations, microservices architecture, Distributed computing , Migrations, Multi/hybrid Cloud, istio, Regressions, classifications, clustering, anomaly/outlier/fraud/threat detection, chat bots, question/answering. Open/Closed LLMs, Prompt Engg, LangChain, Advance RAG, RLHF, Vector Search, Llama Index, Haystack, gpt4all, llama.cpp, Sentiment Analysis, NER, Text Classification, summarization, Gensim, Spacy, BERT, NLTK, Embeddings, NMT, hugging face models. TensorFlow, TFX, Kube Flow pipelines, CUDA, Tensorflow js, tf.data, Keras, Transfer Learning, Ensemble Learning, RNN, GRU, LSTM, self/multi head Attention, Adversarial Networks, NMT, CNN, Facial Recognition, Object detection, image captioning, segmentation, transitioning, style transfer, all types of GANs, Reinforcement Learning, custom & vision transformers, Diffusion Models etc., AWS, Google Cloud, Azure, IBM Cloud, Spark, DataBricks, MongoDB, MySQL, BigQuery, BigTable, postgres, Alloydb. Hadoop, web-scraping, Apache beam, Apache Airflow, Composer. Matplotlib, ggplot , seaborn, plotly, pyLDavis, t-SNE and DASH, Python, Pandas, Pytorch, Tensor Flow, Trax, OpenCV, SciPy, Numpy, Scikit-Learn, flask, django, other libraries for AI/ML,HTML/CSS, Javascript, Scala, C##, Docker, Kubernetes, Linux and others; Enterprise Planning, BI, IBM/Congos planning, reporting, TM1. Anaplan, looker, Tableau

1999-2024

### Leadership Skills

🏢 Various

📍 United States

Led companies as a Founder and CEO. Managed teams, clients and employees for desired results. Sold and implemented AI/BI/enterprise planning products/services to Fortune 500 companies. Founded an E-commerce private marketplace and managed various constituents. Worked as a manager/lead consultant and led various endeavors for JP Morgan Chase, IBM.

1999-2024

### Consulting Skills

🏢 Various

📍 United States

At ease working with various stakeholders to manage change. Worked alongside McKinsey & Co., Boston Consulting Group, AT. Kearney, PriceWaterhouse Consulting, IBM Consulting, Oliver Wyman and Tandon Capital at various capacities.

January 2016-May 2018

### Founder

🏢 Zipjoint Inc

📍 United States



E-Commerce site.

Sell, Rent or buy new/used/underused stuff or skills. Open your free private JOINT to earn, save & help. Use our

dedicated, transaction oriented, easy to use social media platform and be productive. Do business locally or globally in 25 currencies

July 2005-August 2015

### **Founder, Enterprise Planning, Business Intelligence**

 Yawa Corporation  
 United States

Sold products and services for business intelligence and enterprise planning systems. Recruited and developed teams of consultants to design, develop and deploy enterprise planning and business intelligence system for fortune 500 companies for real time insights on financial and business performance. Re-engineered business processes for enhanced and timely response. Set up real time dashboards, KPIs and Metrics for senior managers. Improved performance for 30 of fortune 500 companies

January 1999-July 2005



### **Principal Consultant/Lead Consultant/Project Manager**

 IBM previously Cognos and Adaytum  
 United States

Implemented IBM, Cognos and Adaytum products for business intelligence and enterprise planning.

December 1993-December 1998

### **Asst. Vice President/Controller**

 Chase Manhattan Bank/JP Morgan Chase  
 United States

Worked with McKinsey & Co, Boston Consulting group and AT Kearney on various strategic initiatives. Controller of the small business segment. Performed analysis, reporting for structured and unstructured loans for various divisions of national consumer loan group.

## **EDUCATION**

1992-1993

### **MBA**

 University of Rochester  
 Rochester, New York, United States

From Jan 1992 to June 1993: MBA in Finance and Operations

University of Rochester, Rochester NY

Dean's List, Beta Gamma Sigma Honors Society

Project at Chase Manhattan Bank Call center on staffing forecast

- Finance and Operations

## SKILLS

Anomaly Detection   Autoencoders   Balanced Iterative Reducing and Clustering Using Hierarchies   Birch

Data Science   DbSCAN   Hierarchical Clustering   K-Means   Linear Discriminant Analysis   Logistic Regression

Machine Learning   Naïve Bayes   Neural Networks   NON-Negative Matrix Factorization

Principal Component Analysis   PCA   Random Forests   Reinforcement Learning   Self-Organizing Map   SOM

Support Vector Machine   SVM   T-SNE   Artificial Intelligence   Bayesian   Big Data   Clustering

Data Visualization   Datasets   Enterprise Resource Planning   Latent Dirichlet Allocation

Natural Language Processing   Risk Analysis   Sentiment Analysis   API   Develop Algorithms   Natural

Python   Keras   Matplotlib   Numpy   Opencv   Pandas   Tensorflow   JAVA   Spring   Database

Mysql   Oracle   Sqlite   BERT   Cognos   Optimization   SVC   Docker   Linux   Project Manager

Deltak   Cash Flow   Forecasting   Strategic Planning   Financial Planning   Trading   Financial Modeling

Financial Reporting   Portfolio Management   Asset Management   Finance   SEC   Closing

Real Estate Analysis   General Ledger   Cost Analysis   Budgeting   Incentive Programs   Segmentation

Marketing   Business Plan   Business Intelligence   Social Media Marketing   Market Analysis   Retail

Consumer Products   Real Estate   Merger and Acquisition   Computer Vision   Financial Support

Best Practices   Credit Risk   Metrics   Staffing   Operations   Sales Team   Sales Volume   Accounting

Posting   AD Hoc Analysis   Balance Sheet   Financials   Regulatory Reporting   Strategic Sourcing

Inventory   Inventory Control   Training Programs   Employee Resource Group   Mechanical Engineering

Estimator   Translations   Visualization   Scraping   Maintenance   Bank Call Center   Excel

Microsoft Word   Pre-Sales   Consulting   Dimensional Modeling   Financial Systems   Proof of Concept

Prototyping   eCommerce Sales   Social Media   Artificial Intelligence (AI)   Data Management

Investment Management   Face Recognition   Employee Retention   Trading/Stockbroking   Risk Management

Industry/Trade Analysis   Team Lead/Manager   Sales   Cloud Computing   Analysis Skills

Conversation Engine   Head of Finance   Business Model   Project/Program Management   Performance Metrics

Customer Satisfaction   Sourcing Strategy   Small Business   Reporting Skills   Financial Management

Consumer Finance   Financial Projections   Budget Reporting   Performance Management   Data Collection

Database Programming   Recruiting/Staffing/Hiring   Banking Services   Profit & Loss   Capital Project

Production Management   Vendor/Supplier Management   Generative AI   ML Ops   Cellular Telephone

Inventory Management   Software Development   Quality Control   Mentoring   Startup   Manufacturing

Insurance   Research & Development (R&D)   Capital Expenditure (CAPEX)   Process Improvement

Business Development   Air Cargo   Model Review   International Business   Biotech and Pharmaceutical

Funding   Deltak Accounting Software   Reengineering   eCommerce   Deep Learning   Hybrid Cloud

Cloud Applications   Distributed Computing   Data Warehousing   Cloud Architecture   Maintain Compliance

Product Planning   Applications Security   Management Strategy   Computer Security   Computer Architecture

Software Engineering   Legal   DevOps   Microservices   Machine Translation   Microsoft C# (C Sharp)   Flask  
 Django   Tableau   Looker   JavaScript   CSS (Cascading Style Sheet)   IBM Product Family  
 Amazon Web Services (AWS)   Linux Operating System   PostgreSQL   Python Programming/Scripting Language  
 Apache Hadoop   Scala Programming Language   HTML (HyperText Markup Language)   Microsoft Windows Azure  
 MongoDB   CUDA (Compute Unified Device Architecture)   Natural Language Toolkit (NLTK)   Leadership  
 Fortune 500 Customers   Change Management   Product Pricing   Promotional Programs   Automation  
 Network Systems   Network Design   Modeling Languages   System Architecture   Presentation/Verbal Skills  
 Writing Skills   Proposal Development   Emerging Technology   Team Player   Statement of Work (SOW)  
 Trend Analysis   Data Analysis   Communication Skills   C-Level Management  
 Natural Language Processing (NLP)   Cross-Functional   Problem Solving Skills   User Experience Design (UXD)  
 Data Quality   Continuous Integration   Continuous Deployment/Delivery   Information/Data Security (InfoSec)  
 Metadata   Supply Chain Management   Product Management   Supply Chain Optimization   Pricing  
 Operational Strategy   Call Centers   Voice Chat   Customer Experience   Data Modeling  
 Improvement Metrics   Return on Investment (ROI)   Advertising   Customer Retention/Renewal  
 Policy Development   Business Processes   Reporting Dashboards   Data Mining   Statistics  
 Predictive Modeling   Database Extract Transform and Load (ETL)   Entity Relationship Diagram (ERD)  
 Database Design   SQL Databases   Apache   Regulations   Data Migration   Security Architecture  
 Medical Imaging   Healthcare   Algorithms   IBM Cognos   Consumer Loans   Loan Structuring

## CERTIFICATIONS

### Business Analytics Certificate - Harvard Business School Online

Module 1: Describing and Summarizing Data, Recognize trends in data and detect outliers, summarize data sets concisely, and analyze relationships between variables.

Module 2: Sampling and Estimation

Create representative samples and draw conclusions about the larger population and craft sound survey questions.

Module 3: Hypothesis Testing, Quantify the evidence in favor of or against your hypothesis in order to make managerial decisions.

Module 4: Single Variable Linear Regression, Analyze the relationship between two variables and develop forecasts for values outside the data set.

Module 5: Multiple Regression, Identify relationships among three or more variables to improve understanding of data and provide better forecasts.

### Investment Management with Python and Machine Learning Specialization - EDHEC Business School

<https://coursera.org/verify/specialization/2GRL9DVRRE8N>

Course Certificates Completed

1. Introduction to Portfolio Construction and Analysis with Python
2. Advanced Portfolio Construction and Analysis with Python
3. Python and Machine Learning for Asset Management.

#### 4. Python and Machine-Learning for Asset Management with Alternative Data Sets

The Data Science and Machine Learning for Asset Management Specialization has been designed to deliver a broad and comprehensive introduction to modern methods in Investment Management, with a particular emphasis on the use of data science and machine learning techniques to improve investment decisions. By the end of this specialization, the student will have acquired the tools required for making sound investment decisions, with an emphasis not only on the foundational theory and underlying concepts, but also on practical applications and implementation with an emphasis on the hands-on implementation of those ideas in the Python programming language through a series of dedicated lab sessions.

Write custom Python code and use existing Python libraries to build and analyze efficient portfolio strategies. Learn the principles of supervised and unsupervised machine learning techniques to financial data sets. Write custom Python code and use existing Python libraries to estimate risk and return parameters, and build better diversified portfolios. Gain an understanding of advanced data analytics methodologies, and quantitative modelling applied to alternative data in investment decisions

##### **Advanced Machine Learning on Google Cloud Specialization - Google Cloud**

<https://coursera.org/verify/specialization/VVQYBUFWMZ6J>

Course Certificates Completed

1. Computer Vision Fundamentals with Google Cloud
2. Sequence Models for Time Series and Natural Language Processing
3. End-to-End Machine Learning with TensorFlow on Google Cloud
4. Production Machine Learning Systems
5. Recommendation Systems with TensorFlow on GCP

This specialization focuses on advanced machine learning topics using Google Cloud Platform where you will get hands-on experience optimizing, deploying, and scaling production ML models of various types in hands-on labs. This specialization teaches you how to build scalable, accurate, and production-ready models for structured data, image data, time-series, and natural language text. It ends with a course on building recommendation systems.

##### **Building Cloud Computing Solutions at Scale Specialization - DUKE University**

<https://coursera.org/verify/specialization/WX7QVJ323KSN>

Course Certificates Completed

1. Cloud Computing Foundations
2. Cloud Virtualization, Containers and APIs
3. Cloud Data Engineering
4. Cloud Machine Learning Engineering and MLOps

By completing this Specialization, you have developed the job-ready, pragmatic skills needed for careers that leverage Cloud-native technologies, including

- (1) building websites involving serverless technology and virtual machines, using the best practices of DevOps;
- (2) creating effective Microservices using technologies like Flask and Kubernetes that are continuously deployed to a Cloud platform: Amazon Web Services (AWS), Azure or Google Cloud Platform (GCP);
- (3) using cloud solutions to address complex data engineering solutions; and

(4) applying Machine Learning Engineering to build a Flask web application that serves out Machine Learning predictions

### **Generative Adversarial Networks (GANs) Specialization - DeepLearning.AI**

<https://coursera.org/verify/specialization/KK2V9V35Y5RF>

#### **Course Certificates Completed**

1. Build Basic Generative Adversarial Networks (GANs)
2. Build Better Generative Adversarial Networks (GANs)
3. Apply Generative Adversarial Networks (GANs)

You have completed all 3 courses of Generative Adversarial Networks - a DeepLearning.AI Specialization. As part of this Specialization, you have learned the classical machine learning skills and the state-of-the-art deep learning techniques needed to build GANs models. You are now equipped to design applications that perform image generation and image-to-image translation using GANs! These, and other generative applications, are going to be at the forefront of the coming transformation to an AI-powered future.

Understand GAN components, build basic GANs using PyTorch and advanced DCGANs using convolutional layers, control your GAN and build conditional GAN

Use GANs for data augmentation and privacy preservation, survey GANs applications, and examine and build Pix2Pix and CycleGAN for image translation

Compare generative models, use FID method to assess GAN fidelity and diversity, learn to detect bias in GAN, and implement StyleGAN techniques

### **Machine Learning Engineering for Production (MLOps) Specialization - DeepLearning.AI**

<https://coursera.org/verify/specialization/AW4WTDAPQ7JV>

#### **Course Certificates Completed**

1. Introduction to Machine Learning in Production
2. Machine Learning Data Lifecycle in Production
3. Machine Learning Modeling Pipelines in Production
4. Deploying Machine Learning Models in Production

Congratulations! You have completed all four courses of Machine Learning Engineering for Production (MLOps) Specialization. In this Specialization, you learned how to conceptualize and maintain integrated systems. You mastered well-established tools and methodologies to build production systems that can handle relentless evolving data and continuously run at maximum efficiency. You're now familiar with the capabilities, challenges, and consequences of machine learning engineering in production and are ready to level up your career by participating in the development of leading-edge AI technology and solving real-world problems.

Design an ML production system end-to-end: project scoping, data needs, modeling strategies, and deployment requirements. Build data pipelines by gathering, cleaning, and validating datasets. Establish data lifecycle by using data lineage and provenance metadata tools. Establish a model baseline, address concept drift, and prototype how to develop, deploy, and continuously improve a productionized ML application. Apply best practices and progressive delivery techniques to maintain and monitor a continuously operating production system.

### **Machine Learning for Trading Specialization - New York Institute of Finance and Google Cloud**

<https://coursera.org/verify/specialization/L5FPRQ4APZNF>



#### Course Certificates Completed

1. Introduction to Trading, Machine Learning & GCP
2. Using Machine Learning in Trading and Finance
3. Reinforcement Learning for Trading Strategies

Understand the structure and techniques used in machine learning, deep learning, and reinforcement learning (RL) strategies. Describe the methods used to optimize an ML-driven trading strategy. Describe the steps required to develop and test an ML-driven trading strategy. Use Keras and Tensorflow to build machine learning models.

The courses will teach you how to create various quantitative and algorithmic trading strategies using Python. By the end of the specialization, you will be able to create long-term trading strategies, short-term trading strategies, and hedging strategies.

#### **Python, Bash and SQL Essentials for Data Engineering Specialization - DUKE University**

<https://coursera.org/verify/specialization/RJKPP27EYZT>

#### Course Certificates Completed

1. Python and Pandas for Data Engineering
2. Linux and Bash for Data Engineering
3. Scripting with Python and SQL for Data Engineering
4. Web Applications and Command-Line Tools for Data Engineering

Develop data engineering solutions with a minimal and essential subset of the Python language and the Linux environment. Use a scraping library in Python to read, identify and extract data from websites. Design scripts to connect and query a SQL database using Python

By completing this Specialization, you have developed the foundational skills necessary for building data engineering solutions, including

- (1) setting up a version-controlled Python working environment which can utilize third party libraries;
- (2) developing the syntax needed to manage and manipulate databases in a Bash environment;
- (3) using a modern text editor to connect and run queries from a database, performing operations to load and extract data; and
- (4) applying Python microservices to break up data into portable solutions that can scale across multiple projects

#### **SQL for Data Science - University of California, Davis**

<https://coursera.org/verify/Y29JBT5MCJED>

Identify a subset of data needed from a column or set of columns and write a SQL query to limit to those results. Create an analysis table from multiple queries using the UNION operator. Use SQL commands to filter, sort, and summarize data. Manipulate strings, dates, & numeric data using functions to integrate data from different sources into fields with the correct format for analysis.

#### **AI for Medicine Specialization - DeepLearning.AI**

<https://coursera.org/verify/specialization/EJR7S6RJAF4B>

#### Course Certificates Completed

1. AI for Medical Diagnosis
2. AI for Medical Prognosis
3. AI For Medical Treatment

Diagnose diseases from x-rays and 3D MRI brain images. Estimate treatment effects on patients using data from randomized trials. Predict patient survival rates more accurately using tree-based models. Automate the task of labeling medical datasets using natural language processing.

In this Specialization, you gained practical experience applying machine learning to concrete problems in medicine. You learned how to diagnose chest x-rays and brain scans, evaluate your models, handle missing data, and estimate the effect of treatments. Now you can help transform the practice of medicine worldwide. You can go on to pursue a career in the medical industry as a data scientist, machine learning engineer, innovation officer, or business analyst!

#### **Machine Learning on Google Cloud Specialization - Google Cloud**

<https://coursera.org/verify/specialization/9RDRFZ6NN4GG>

#### Course Certificates Completed

1. How Google does Machine Learning
2. TensorFlow on Google Cloud
3. Launching into Machine Learning
4. Machine Learning in the Enterprise
5. Feature Engineering

Use Vertex AI AutoML and BigQuery ML to build, train, and deploy ML models. Implement machine learning in the enterprise best practices. Implement machine learning models using Keras and TensorFlow 2.x. Describe how to perform exploratory data analysis and improve data quality.

In this five-course specialization, participants learn to build, train, and deploy Vertex AI AutoML and BigQuery ML models; create Vertex AI custom training jobs and deploy using Docker containers; use Feature Store; perform feature engineering; and choose data preprocessing options. They also learn to use Vertex Vizier hyperparameter tuning to add the right mix of parameters that yields accurate, generalized models and the theory to solve specific types of ML problems. They learn to write distributed ML models that scale in TensorFlow; and leverage best practices to implement machine learning on Google Cloud. They experimented with end-to-end ML — building an ML- focused strategy, then model training, optimization, and productionalization with hands-on labs using Google Cloud Platform

#### **TensorFlow: Advanced Techniques Specialization - DeepLearning.AI**

<https://www.coursera.org/account/accomplishments/specialization/FBVBZEJQHKDZ>

#### Course Certificates Completed

1. Custom Models, Layers, and Loss Functions with TensorFlow
2. Custom and Distributed Training with TensorFlow
3. Advanced Computer Vision with TensorFlow
4. Generative Deep Learning with TensorFlow

Understand the underlying basis of the Functional API and build exotic non-sequential model types, custom loss functions, and layers. Practice object detection, image segmentation, and visual interpretation of convolutions. Learn optimization and how to use GradientTape & Autograph, optimize training in different environments with multiple

processors and chip types. Explore generative deep learning, and how AIs can create new content, from Style Transfer through Auto Encoding and VAEs to GANs.

With this Specialization, you've expanded your knowledge of the Functional API and are ready to build exotic non-sequential model types. You learned how to optimize training in different environments with multiple processors and chip types and have also been introduced to advanced computer vision scenarios such as object detection, image segmentation, and interpreting convolutions. You've explored generative deep learning including the ways AIs can create new content from Style Transfer to Auto Encoding, VAEs, and GANs. You are now equipped to build complex, custom models using TensorFlow

### **Practical Data Science on the AWS Cloud Specialization - AWS, DeepLearning.AI**

<https://coursera.org/verify/specialization/TQP25FNEG8RT>

#### **Course Certificates Completed**

1. Analyze Datasets and Train ML Models using AutoML
2. Build, Train, and Deploy ML Pipelines using BERT
3. Optimize ML Models and Deploy Human-in-the-Loop Pipelines

Prepare data, detect statistical data biases, perform feature engineering at scale to train models, & train, evaluate, & tune models with AutoML. Build, deploy, monitor, & operationalize end-to-end machine learning pipelines. Store & manage ML features using a feature store, & debug, profile, tune, & evaluate models while tracking data lineage and model artifacts. Build data labeling and human-in-the-loop pipelines to improve model performance with human intelligence.

In this Specialization, you learned how to build, train, tune, and deploy machine learning models with purpose-built tools in the AWS cloud. You developed practical skills to effectively deploy your data science projects using well-established methodologies and overcome challenges at each step of the ML workflow using Amazon SageMaker. You've become familiar with the capabilities and challenges of practical data science in production environments. You are now ready to level up your career by conducting complex data analysis and solving real-world business problems.

### **TensorFlow Developer Professional Certificate - DeepLearning.AI**

<https://www.coursera.org/account/accomplishments/professional-cert/KKC7DE48G4R6>

#### **Course Certificates Completed**

1. Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning
2. Convolutional Neural Networks in TensorFlow
3. Natural Language Processing in TensorFlow
4. Sequences, Time Series and Prediction

Best practices for TensorFlow, a popular open-source machine learning framework to train a neural network for a computer vision applications. Build natural language processing systems using TensorFlow. Handle real-world image data and explore strategies to prevent overfitting, including augmentation and dropout. Apply RNNs, GRUs, and LSTMs as you train them using text repositories.

You have completed all 4 courses of the DeepLearning.AI TensorFlow Developer Professional Certificate program. As part of this Professional Certificate program, you have learned: how to build and train neural networks using TensorFlow, how to improve network performance using convolutions as you train it to identify real-world images, how to teach machines to understand, analyze, and respond to human speech with natural language processing systems, and more! These, and other TensorFlow concepts, are going to be at the forefront of the coming transformation to an AI-powered

future

## **TensorFlow: Data and Deployment Specialization - DeepLearning.AI**

Course Certificates Completed

1. Browser-based Models with TensorFlow.js
2. Device-based Models with TensorFlow Lite
3. Data Pipelines with TensorFlow Data Services
4. Advanced Deployment Scenarios with TensorFlow

Run models in your browser using TensorFlow.js. Access, organize, and process training data more easily using TensorFlow Data Services. Prepare and deploy models on mobile devices using TensorFlow Lite. Explore four advanced deployment scenarios using TensorFlow Serving, TensorFlow Hub, and TensorBoard.

In this specialization, you continued to develop your understanding of machine learning with TensorFlow: Data and Deployment. You have gone beyond basic modeling and learned how to train and run your models within a browser, optimize machine learning models for mobile devices, and create effective data pipelines with TensorFlow Data Services. Now that you've learned the various ways to deploy your models, you're well-prepared to take your models into the hands of real people on all kinds of devices!

### **M121: The MongoDB Aggregation Framework - MongoDB University**

[https://university.mongodb.com/course\\_completion/067a19a7-6500-4702-9202-a5ad4853cd9c](https://university.mongodb.com/course_completion/067a19a7-6500-4702-9202-a5ad4853cd9c)

### **M320: Data Modeling - MongoDB University**

[https://university.mongodb.com/course\\_completion/b4bff280-f5d6-4c82-a0bb-505c73a495a5](https://university.mongodb.com/course_completion/b4bff280-f5d6-4c82-a0bb-505c73a495a5)

### **M201: MongoDB Performance - MongoDB University**

[https://university.mongodb.com/course\\_completion/4f147be2-68ff-4443-adb3-22ee7d2e42d9](https://university.mongodb.com/course_completion/4f147be2-68ff-4443-adb3-22ee7d2e42d9)

### **A300: Atlas Security - MongoDB University**

[https://university.mongodb.com/course\\_completion/bb144f3d-c586-494c-ba70-4e75c5fef581](https://university.mongodb.com/course_completion/bb144f3d-c586-494c-ba70-4e75c5fef581)

### **M001: MongoDB Basics- MongoDB University**

[https://university.mongodb.com/course\\_completion/e5417dd2-2d62-43bc-8124-2e0187fd5e4f](https://university.mongodb.com/course_completion/e5417dd2-2d62-43bc-8124-2e0187fd5e4f)

## **Natural Language Processing Specialization - DeepLearning.AI**

<https://coursera.org/verify/specialization/KPCD2VRW7H2R>

Course Certificates Completed

1. Natural Language Processing with Classification and Vector Spaces
2. Natural Language Processing with Probabilistic Models
3. Natural Language Processing with Sequence Models
4. Natural Language Processing with Attention Models

Use logistic regression, naïve Bayes, and word vectors to implement sentiment analysis, complete analogies & translate words. Use recurrent neural networks, LSTMs, GRUs & Siamese networks in Trax for sentiment analysis, text generation & named entity recognition. Use dynamic programming, hidden Markov models, and word embeddings to implement autocorrect, autocomplete & identify part-of-speech tags for words. Use encoder-decoder, causal, & self-attention to machine translate complete sentences, summarize text, build chatbots & question-answering.

You have completed all four courses of Natural Language Processing - a DeepLearning.AI Specialization. As part of this

Specialization, you have learned both the classical machine learning skills and the state-of-the-art deep learning techniques needed to build NLP systems. You are now equipped to design applications that perform question answering and sentiment analysis, create tools to translate languages, summarize text, and build chatbots! These, and other NLP applications, will be at the forefront of the coming transformation to an AI powered future.

#### **Practical Guide to Trading Specialization - Interactive Brokers**

<https://coursera.org/verify/specialization/KDGF4PWJAGXC>

Course Certificates Completed

1. Fundamentals of Equities
2. Forex - Trading Around the World
3. U.S. Bond Investing Basics
4. Derivatives - Options & Futures

Understand the interconnectedness of the global capital markets. Acquire knowledge of fixed income products such as corporate and municipal debt. Learn how to trade options, futures, currencies, and equities. Hands-on experience with IBKR's global trading platform using a simulated trading account.

#### **ML and Reinforcement Learning in Finance Specialization New York University**

<https://coursera.org/verify/specialization/6HED833JFBCC>

1. Guided Tour of Machine Learning in Finance
2. Fundamentals of Machine Learning in Finance
3. Reinforcement Learning in Finance
4. Overview of Advanced Methods of Reinforcement Learning in Finance

Compare ML for Finance with ML in Technology (image and speech recognition, robotics, etc.). Explain how Reinforcement Learning is used for stock trading. Describe linear regression and classification models and methods of their evaluation. Become familiar with popular approaches to modeling market frictions and feedback effects for option trading.

In this specialization, students mastered core paradigms and algorithms of machine learning (ML), with a particular focus on applications of ML to various practical problems in Finance. Students developed essential skills needed to be able to solve practical ML- amenable real life problems: (1) mapping the problem on a general landscape of available ML methods, (2) choosing particular ML approach(es) that would be most appropriate for resolving the problem, and (3) successfully implementing a solution, and assessing its performance. Learners completed a Capstone Project in stock trading, asset management, and banking applications.

#### **Google Cloud Certified - Cloud Digital Leader (Expiration Oct 2025)**

<https://www.credential.net/ac7d7cf5-80b4-44f9-8352-e807266dcce7?key=b9f0d9c429cc5debbadf7a9a44777e330d6cb79c8602f6059092b394d8c18edd>

A Cloud Digital Leader can articulate the capabilities of Google Cloud core products and services and how they benefit organizations. They can also describe common business use cases and how cloud solutions support an enterprise.

This certification is for anyone who wishes to demonstrate their knowledge of cloud computing basics and how Google Cloud products and services can be used to achieve an organization's goals.

The Cloud Digital Leader exam assesses your knowledge in these areas:

Digital transformation with Google Cloud

Exploring data transformation with Google Cloud

Innovating with Google Cloud artificial intelligence

Modernizing infrastructure and applications with Google Cloud

Trust and security with Google Cloud

Scaling with Google Cloud operations

**Google Cloud Certified - Associate Cloud Engineer (Expiration May 2026)**

[https://google.accreditable.com/b0909039-d31e-4217-b842-](https://google.accreditable.com/b0909039-d31e-4217-b842-f2d9821b53fc?key=e614117abd13bd757dde5f56618942ba98104e33399ea7ba5f4bb35f54bca6a6#gs.z8m8sq)

[f2d9821b53fc?key=e614117abd13bd757dde5f56618942ba98104e33399ea7ba5f4bb35f54bca6a6#gs.z8m8sq](https://google.accreditable.com/b0909039-d31e-4217-b842-f2d9821b53fc?key=e614117abd13bd757dde5f56618942ba98104e33399ea7ba5f4bb35f54bca6a6#gs.z8m8sq)

Associate Cloud Engineers deploy applications, monitor operations, and manage enterprise solutions. They use Google Cloud Console and the command-line interface to perform common platform-based tasks to maintain one or more deployed solutions that leverage Google-managed or self-managed services on Google Cloud.

The Associate Cloud Engineer exam assesses your ability to:

Set up a cloud solution environment

Plan and configure a cloud solution

Deploy and implement a cloud solution

Ensure successful operation of a cloud solution

Configure access and security

**Google Cloud Certified - Professional Cloud Security Engineer (Expiration Oct 2025)**

<https://google.accreditable.com/b2cea919-0f0b-48c9-abc1-12c95dda3b29>

A Cloud Security Engineer allows organizations to design and implement secure workloads and infrastructure on Google Cloud. Through an understanding of security best practices and industry requirements, this individual designs, develops, and manages a secure solution by using Google security technologies. A Cloud Security Engineer is proficient in identity and access management, defining organizational security structure and policies, using Google Cloud technologies to provide data protection, configuring network security defenses, monitoring environments for threats, security automation, AI security, the secure software supply chain, and enforcing regulatory controls.

The Professional Cloud Security Engineer exam assesses your ability to:

Configure access.

Secure communications and establish boundary protection.

Ensure data protection.

Manage operations.

Support compliance requirements.

**Google Cloud Certified - Professional Cloud Architect (Expiration Nov-2025)**

<https://google.accreditable.com/bf4bcafb-bc37-4842-b53f-58be86e5cedc>

Professional Cloud Architects enable organizations to leverage Google Cloud technologies. With a thorough understanding of cloud architecture and Google Cloud, they design, develop, and manage robust, secure, scalable, highly available, and dynamic solutions to drive business objectives.

The Professional Cloud Architect certification exam assesses your ability to:

- Design and plan a cloud solution architecture
- Manage and provision the cloud solution infrastructure
- Design for security and compliance
- Analyze and optimize technical and business processes
- Manage implementations of cloud architecture
- Ensure solution and operations reliability

**Google Cloud Certified - Professional Cloud Developer (Expiration Dec-2025)**

<https://google.accreditable.com/65f328bd-c6d9-486c-9b98-2e71ec7050e7>

A Professional Cloud Developer builds scalable and highly available applications using Google-recommended tools and best practices. This individual has experience with cloud-native applications, developer tools, managed services, and next-generation databases. A Professional Cloud Developer also has proficiency with at least one general-purpose programming language and instruments their code to produce metrics, logs, and traces.

The Professional Cloud Developer exam assesses your ability to:

- Design highly scalable, available, reliable cloud-native applications
- Build and test applications
- Deploy applications
- Integrate Google Cloud services
- Manage deployed applications

**Google Cloud Certified - Professional Cloud DevOps Engineer (Expiration Dec 2025)**

<https://google.accreditable.com/d4768a44-5d90-4067-ae23-23a58087ca56>

Professional Cloud DevOps Engineers implement processes throughout the systems development lifecycle using Google-recommended methodologies and tools. They build and deploy software and infrastructure delivery pipelines, optimize and maintain production systems and services, and balance service reliability with delivery speed.

The Professional Cloud DevOps Engineer exam assesses your ability to:

- Bootstrap a Google Cloud organization for DevOps
- Build and implement CI/CD pipelines for a service
- Apply site reliability engineering practices to a service
- Implement service monitoring strategies

Optimize service performance

### **Google Cloud Certified - Professional Cloud Database Engineer (Expiration Jan 2026)**

<https://google.accreditable.com/8fd7ded5-fba2-4a38-94d2-d95c78941e21>

A Professional Cloud Database Engineer is a database professional with two years of Google Cloud experience and five years of overall database and IT experience. The Professional Cloud Database Engineer designs, creates, manages, and troubleshoots Google Cloud databases used by applications to store and retrieve data. The Professional Cloud Database Engineer should be comfortable translating business and technical requirements into scalable and cost-effective database solutions.

The Professional Cloud Database Engineer exam assesses your ability to:

Design scalable and highly available cloud database solutions

Manage a solution that can span multiple database solutions

Migrate data solutions

Deploy scalable and highly available databases in Google Cloud

### **Google Cloud Certified - Professional Data Engineer (Expiration Feb - 2026)**

<https://google.accreditable.com/2c599f62-6ebf-46a0-96ea-42b9de639430>

A Professional Data Engineer makes data usable and valuable for others by collecting, transforming, and publishing data. This individual evaluates and selects products and services to meet business and regulatory requirements. A Professional Data Engineer creates and manages robust data processing systems. This includes the ability to design, build, deploy, monitor, maintain, and secure data processing workloads.

The Professional Data Engineer exam assesses your ability to:

Design data processing systems

Ingest and process the data

Store the data

Prepare and use data for analysis

Maintain and automate data workloads

### **Google Cloud Certified - Professional Machine Learning (Expiration Mar-2026) Engineer**

<https://google.accreditable.com/90bce918-c052-4145-8690-405514c706d5#gs.5svhr8>

A Professional Machine Learning Engineer builds, evaluates, productionizes, and optimizes ML models by using Google Cloud technologies and knowledge of proven models and techniques. The ML Engineer handles large, complex datasets and creates repeatable, reusable code. The ML Engineer considers responsible AI and fairness throughout the ML model development process, and collaborates closely with other job roles to ensure long-term success of ML-based applications. The ML Engineer has strong programming skills and experience with data platforms and distributed data processing tools. The ML Engineer is proficient in the areas of model architecture, data and ML pipeline creation, and metrics interpretation. The ML Engineer is familiar with foundational concepts of MLOps, application development, infrastructure management, data engineering, and data governance. The ML Engineer makes ML accessible and enables teams across the organization. By training, retraining, deploying, scheduling, monitoring, and improving models, the ML



Engineer designs and creates scalable, performant solutions.

Skills: AutoML, BigQuery ML, Cloud Storage, Data Processing, Google Cloud Platform (GCP), Machine Learning, ML APIs, ML Ops, Responsible AI, Scalability, Vertex AI

#### **Develop GenAI Apps with Gemini and Streamlit - Google Cloud Skill Badge**

<https://www.credly.com/badges/063dcb6a-36e3-4fc8-8e3c-70801d9fd176>

Complete the intermediate Develop GenAI Apps with Gemini and Streamlit skill badge to demonstrate skills in the following: text generation, applying function calls with the Python SDK and the Gemini API, and deploying a Streamlit application with Cloud Run. You will explore different ways to prompt Gemini for text generation, use Cloud Shell to test and iterate on a Streamlit application, and then package it as a Docker container deployed in Cloud Run.

Skills: Application Development, Gemini, Generative AI, Python, Streamlit, Vertex AI

#### **Inspect Rich Documents with Gemini Multimodality and Multimodal RAG Skill Badge - Google Cloud**

<https://www.credly.com/badges/367d5be0-432f-4d5e-af63-ec9f944faf28>

Complete the intermediate Inspect Rich Documents with Gemini Multimodality and Multimodal RAG skill badge to demonstrate skills in the following: using multimodal prompts to extract information from text and visual data, generating a video description, and retrieving extra information beyond the video using multimodality with Gemini; building metadata of documents containing text and images, and printing citations by using Multimodal Retrieval Augmented Generation (RAG) with Gemini.

Skills: Gemini, Multimodality, RAG, Vertex AI

#### **Build and Deploy Machine Learning Solutions on Vertex AI Skill Badge - Google Cloud**

<https://www.credly.com/badges/62f7d9bc-e1a8-4fce-a139-565086c6fde1>

Complete the intermediate Build and Deploy Machine Learning Solutions on Vertex AI skill badge to demonstrate skills in the following: how to use Google Cloud's unified Vertex AI platform and its AutoML and custom training services to train, evaluate, tune, explain, and deploy machine learning solutions.

Skills: AutoML, BERT, Cloud Build, ML Model Training, Vertex AI

#### **Build a Website on Google Cloud Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/f29e3b1c-5249-4c92-bea4-eb33751d439f>

Complete the introductory Build a Website on Google Cloud skill badge to demonstrate skills in the following: deploy a website on Cloud Run, Host a web app on Compute Engine, Create, deploy, and scale your website on Google Kubernetes Engine, Migrate from a monolithic application to a microservices architecture. Complete the introductory Build Skills: Cloud Build, Cloud Run, Compute Engine, GKE, Microservice Architecture

#### **Create and Manage Cloud Spanner Instances Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/690d4ee3-939c-42a7-a8a5-b675173e5595>

Complete the introductory Create and Manage Cloud Spanner Instances skill badge to demonstrate skills in the following: creating and interacting with Cloud Spanner instances and databases; loading Cloud Spanner databases using various techniques; backing up Cloud Spanner databases; defining schemas and understanding query plans; and deploying a Modern Web App connected to a Cloud Spanner instance.

Skills: Cloud Database, Cloud Spanner, Database Migration

#### **Create and Manage Bigtable Instances Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/a30aa5c2-fa56-4f6b-9a6f-5c7e8243fd82>

Complete the intermediate Create and Manage Bigtable Instances skill badge to demonstrate skills in the following: creating instances, designing schemas, querying data, and performing administrative tasks in Bigtable including monitoring Bigtable performance and configuring node autoscaling and replication.

Skills: BigTable, Data Query, NoSQL Databases

#### **Orchestrate PaLM LLM solutions with LangChain Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/c2b4fa2c-6bd8-42a1-b3fe-811d93acb5cb>

Complete the Orchestrate PaLM LLM solutions with LangChain skill badge to demonstrate skills in the following: using LangChain to call Google Cloud LLMs and Generative AI Services and Datastores to simplify complex applications' code.

Skills: LangChain, Palm Apis, Pgvector

#### **Develop Advanced Enterprise Search and Conversation Applications Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/1acd34f4-5452-4771-8b88-f0f01403c2b7>

Complete the Develop Advanced Enterprise Search and Conversation Applications skill badge to demonstrate skills in the following: using text embeddings for tasks like classification, outlier detection, text clustering and semantic search. Combining semantic search with the text generation capabilities of an LLM to build Retrieval Augmented Generation (RAG) solutions, such as for question-answering systems, using Google Cloud's Vertex AI and Google Cloud databases.

Skills: Conversational AI, Embeddings, Prompt Engineering, Semantic Search, Vector Search

#### **Integrate Vertex AI Search & Conversation into Voice and Chat Apps Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/cdef0aa6-51c6-4c34-8e63-e078c5021d37>

Complete the Integrate Vertex AI Search & Conversation into Voice and Chat Apps skill badge to demonstrate skills in the following: new Generative AI technologies, such as integrating Vertex AI Search and Conversation into Voice and Chat Apps, and creating end-to-end search and conversational experiences. Providing enterprise-grade search experiences for internal and external websites to search documents, structure data and public websites.

Skills: Conversational AI, Dialogflow, Enterprise Search, Virtual Agents

#### **Implement Cloud Security Fundamentals on Google Cloud Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/78ce3f2e-ceed-43f7-84ff-c34845e68fd6>

Complete the intermediate Implement Cloud Security Fundamentals on Google Cloud skill badge to demonstrate skills in the following: creating and assigning roles with Identity and Access Management (IAM); creating and managing service accounts; enabling private connectivity across virtual private cloud (VPC) networks; restricting application access using Identity-Aware Proxy; managing keys and encrypted data using Cloud Key Management Service (KMS); and creating a private Kubernetes cluster.

Skills: App Deployment, Authentication, Cloud Key Management, GKE, Identity And Access Management, Kubectl, Kubernetes, Security, Service Account,VPC Peering

#### **Build Infrastructure with Terraform on Google Cloud Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/c37b38ae-d1a4-459e-b611-3c5d1f2e89fe>

Complete the Build Infrastructure with Terraform on Google Cloud skill badge to demonstrate skills in the following: Infrastructure as Code (IaC) principles using Terraform, provisioning and managing Google Cloud resources with Terraform configurations, effective state management (local and remote), and modularizing Terraform code for reusability and organization.

Skills: Google Cloud Platform (GCP), Infrastructure as Code (IaC), Terraform

### **Cloud Architecture: Design, Implement, and Manage Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/e1c1f8d4-e020-4b09-b1d4-1ee7a78b2702>

Complete the Cloud Architecture: Design, Implement, and Manage skill badge to demonstrate skills in the following: deploy a publicly accessible website using Apache web servers, configure a Compute Engine VM using startup scripts, configure secure RDP using a Windows Bastion host and firewall rules, build and deploy a Docker image to a Kubernetes cluster and then update it, and create a CloudSQL instance and import a MySQL database.

Skills: Cloud Architecture, Compute Engine, Kubernetes, MySQL

### **Build a Secure Google Cloud Network Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/01338596-1a7e-4cca-ac96-c17849938cde>

Complete the Build a Secure Google Cloud Network skill badge to demonstrate skills in the following: build, scale, and secure your applications on Google Cloud

Skills: Cloud Security, Networking, VPC Network

### **Prepare Data for ML APIs on Google Cloud Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/bf9bba03-d4f2-4780-8cd7-049cf1848e40>

Complete the introductory Prepare Data for ML APIs on Google Cloud skill badge to demonstrate skills in the following: cleaning data with Dataprep by Trifacta, running data pipelines in Dataflow, creating clusters and running Apache Spark jobs in Dataproc, and calling ML APIs including the Cloud Natural Language API, Google Cloud Speech-to-Text API, and Video Intelligence API. Complete the introductory Prepare Data for ML APIs on Google Cloud skill badge to demonstrate skills in the following: cleaning data with Dataprep by Trifacta, running data pipelines in Dataflow, creating clusters and running Apache Spark jobs in Dataproc, and calling ML APIs including the Cloud Natural Language API, Google Cloud Speech-to-Text API, and Video Intelligence API.

Skills: Cloud Natural Language API, Dataflow, Data Pipeline, Data Preparation, DataProc, Google Cloud Speech API, Machine Learning, Python, TensorFlow, Vertex AI

### **Develop Your Google Cloud Network Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/5fcd862d-5e21-4cc1-b254-e33c5aa7cae7>

Complete the Develop Your Google Cloud Network skill badge to demonstrate skills in the following: explore IAM roles and add/remove project access, create VPC networks, deploy and monitor Compute Engine VMs, write SQL queries, deploy and monitor VMs in Compute Engine, and deploy applications using Kubernetes with multiple deployment approaches.

Skills: Cloud Functions, Cloud Storage, IAM, Monitoring, Pub/sub

### **Deploy Kubernetes Applications on Google Cloud Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/8db4e479-44e5-4c18-b4c4-c6d1713051b0>

Complete the Deploy Kubernetes Applications on Google Cloud skill badge to demonstrate skills in the following: configuring and building Docker container images, creating and managing Google Kubernetes Engine (GKE) clusters, utilizing kubectl for efficient cluster management, and deploying Kubernetes applications with robust continuous delivery (CD) practices.

Skills: Artifact Registry, Container, Docker, GKE

### **Optimize Costs for Google Kubernetes Engine Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/a3da5f27-cb94-4438-884c-308f4fe25f35>

Complete the Optimize Costs for Google Kubernetes Engine skill badge to demonstrate skills in the following: creating and managing multi-tenant clusters, monitoring resource usage by namespace, configuring cluster and pod autoscaling for efficiency, setting up load balancing for optimal resource distribution, and implementing liveness and readiness probes to ensure application health and cost-effectiveness.

Skills: Access Control, Application Deployment, Application Traffic, Autoscaling, Cloud Architecture, GKE, Kubernetes, Load Balancing, Logging, Looker, Node Pools, Pods, Virtual Machines

### **Implement Load Balancing on Compute Engine Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/27d9301a-6ca4-422b-a8e2-537e370798d7>

Complete the Implement Load Balancing on Compute Engine skill badge to demonstrate skills in the following: write gcloud commands and use Cloud Shell, create and deploy virtual machines in Compute Engine, run containerized applications on Google Kubernetes Engine, and configure network and HTTP load balancers.

Skills: Cloud Computing, Compute Engine, GKE, Kubernetes, Networking

### **Text Prompt Engineering Techniques Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/fe076590-b980-42ad-9b06-54532180740c>

Complete the Text Prompt Engineering Techniques skill badge to demonstrate skills in the following: using a generative model and prompting techniques as a creative process that to generate ideations, for example memes and marketing campaigns and using PaLM and Gemini APIs and large language models to analyze and manipulate text and answer questions.

Skills: Gemini APIs, PaLM SDK for Python, Prompt Engineering

### **Implement Cloud Security Fundamentals on Google Cloud Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/6694143a-ed6c-4c08-938e-ded8f90df8f8>

Complete the intermediate Implement Cloud Security Fundamentals on Google Cloud skill badge to demonstrate skills in the following: creating and assigning roles with Identity and Access Management (IAM); creating and managing service accounts; enabling private connectivity across virtual private cloud (VPC) networks; restricting application access using Identity-Aware Proxy; managing keys and encrypted data using Cloud Key Management Service (KMS); and creating a private Kubernetes cluster.

Skills: App Deployment, Authentication, Cloud Key Management, GKE, Identity And Access Management, Kubectl, Kubernetes, Security, Service Account, VPC Peering

### **Implement DevOps Workflows in Google Cloud Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/5fbcc368-3aea-49ce-8175-f9beb6b848ca>

Complete the Implement DevOps Workflows in Google Cloud skill badge to demonstrate skills in the following: creating git repositories with Cloud Source Repositories, launching, managing, and scaling deployments on Google Kubernetes Engine (GKE), and architecting CI/CD pipelines that automate container image builds and deployments to GKE.

Skills: Artifact Registry, CI/CD, Cloud Build, Cloud Source Repositories, DevOps, Git, GKE

### **Develop Serverless Applications on Cloud Run Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/f9939a2f-d149-443f-ada5-5b191edd33e7>

Complete the Develop Serverless Applications on Cloud Run skill badge to demonstrate skills in the following: integrating Cloud Run with Cloud Storage for data management, architecting resilient asynchronous systems using Cloud Run and Pub/Sub, constructing REST API gateways powered by Cloud Run, and building and deploying services on Cloud Run.

Skills: Cloud Build, Cloud Run, Cloud Storage, Containers, Docker, Firestore, Microservice, Pub/sub, REST API, Serverless, Service Account

#### **Build Infrastructure with Terraform on Google Cloud Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/324b14dd-47f0-449d-9c55-0d989e127114>

Complete the Build Infrastructure with Terraform on Google Cloud skill badge to demonstrate skills in the following: Infrastructure as Code (IaC) principles using Terraform, provisioning and managing Google Cloud resources with Terraform configurations, effective state management (local and remote), and modularizing Terraform code for reusability and organization.

Skills: Google Cloud Platform (GCP), Infrastructure as Code (IaC), Terraform

#### **Create ML Models with BigQuery ML Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/842b852e-c707-4147-abb4-b3f89f2756d1>

Complete the Create ML Models with BigQuery ML skill badge to demonstrate skills in the following: creating and evaluating machine learning models with BigQuery ML to make data predictions.

Skills: BigQuery ML, Dialogflow, Forecasting, Machine Learning

#### **Set Up an App Dev Environment on Google Cloud Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/53008a6c-b104-4ca7-af1d-831c9d838ddb>

Complete the Set Up an App Dev Environment on Google Cloud skill badge to demonstrate skills in the following: how to build and connect storage-centric cloud infrastructure using the basic capabilities of the of the following technologies: Cloud Storage, Identity and Access Management, Cloud Functions, and Pub/Sub.

Skills: Cloud Functions, Cloud Storage, IAM, Monitoring, Pub/sub

#### **Monitor and Log with Google Cloud Operations Suite Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/aa827d00-5e25-4206-8f8a-800d72e2fe11>

Complete the Monitor and Log with Google Cloud Operations Suite skill badge to demonstrate skills in the following: monitoring virtual machines in Compute Engine, utilizing Cloud Monitoring for multi-project oversight, extending monitoring and logging capabilities to Cloud Functions, creating and sending custom application metrics, and configuring Cloud Monitoring alerts based on custom metrics.

Skills: Alerts, Cloud Functions, Compute Engine, Dashboard, Logging, Monitoring

#### **Set Up a Google Cloud Network Skill Badge Issued by Google Cloud**

<https://www.credly.com/badges/7447fbab-9196-46e2-a871-ce81c7ffd8ad>

Complete the Set Up a Google Cloud Network skill badge to demonstrate skills in the following: Set IAM features with the gcloud CLI tool; deploy and scale a Web App on Google Compute Engine; provision a Kubernetes cluster and break an application into microservices; perform basic networking tasks on Google Cloud Platform; view BigQuery logs inside Cloud Logging, and migrate a stand-alone PostgreSQL database to Cloud SQL using a continuous Database Migration Service job.

Skills: Cloud Computing, Database Migration, IAM

### **Building Batch Data Pipelines on Google Cloud**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5637217](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5637217)

### **App Deployment, Debugging, and Performance**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5818690?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5818690?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

### **Configure Google Kubernetes Engine Networking**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5948741?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5948741?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

### **Developing a Google SRE Culture**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5941318?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5941318?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

### **Google Kubernetes Engine Best Practices: Security**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5457507](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5457507)

### **Hybrid Cloud Modernizing Applications with Anthos**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5818837?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5818837?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

### **Mitigating Security Vulnerabilities on Google Cloud**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5453809](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5453809)

### **Modernizing Data Lakes and Data Warehouses with Google Cloud**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5628672](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5628672)

### **Networking in Google Cloud: Defining and Implementing Networks**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5454893](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5454893)

### **Reliable Google Cloud Infrastructure: Design and Process**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5470714](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5470714)

### **Security Best Practices in Google Cloud**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5435812](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5435812)

### **Serverless Cloud Run Development**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5901806?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5901806?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

### **Serverless Data Processing with Dataflow: Foundations**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5640007](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5640007)

### **Deploy and Manage Cloud Environments with Google Cloud**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5169579](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5169579)

### **Ensure Access & Identity in Google Cloud**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5171695](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5171695)

### **Generative AI Explorer : Vertex AI**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5102787](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5102787)

## **Google Cloud Solutions II: Data and Machine Learning**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5316798](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5316798)

## **Hybrid Connectivity and Network Management in Google Cloud**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5416294](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5416294)

## **Implement DevOps in Google Cloud**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5107530](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5107530)

## **Intermediate ML: TensorFlow on Google Cloud**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5288325](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5288325)

## **Network Performance and Optimization**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5093161](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5093161)

## **Securing your Network with Cloud Armor**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5073335](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/5073335)

## **Accelerating Generative AI pipelines with GPUs and TPUs**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8842848?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8842848?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

## **Build Generative AI powered applications**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8869638?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8869638?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

## **Enterprise Readiness in Generative AI**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8903004?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8903004?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

## **Gemini for Developers**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8826257?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8826257?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

## **Gemini for Security Engineers**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8823879?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8823879?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

## **Generative AI Assisted Development**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8870153?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8870153?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

## **Generative AI for Business Leaders**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8826353?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8826353?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

## **Generative AI for Marketing**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8841915?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8841915?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

## **Generative AI in App Integration**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8842148?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8842148?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

## **Generative AI in Google Cloud Databases**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8843045?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8843045?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

## **Generative AI with Google Cloud databases: Usecases**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8903105?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8903105?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

## **High performance feature engineering for predictive and generative AI projects**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8841750?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8841750?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

## **Using Generative AI to Enhance Contact Center AI Solutions**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8870511?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8870511?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

## **Custom Search with Embeddings in Vertex AI**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8755123?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8755123?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

## **Gemini for Application Developers**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8807033?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8807033?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

## **Gemini for Cloud Architects**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8776584?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8776584?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

## **Gemini for Data Scientists and Analysts**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8785777?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8785777?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

## **Gemini for DevOps Engineers**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8799799?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8799799?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

## **Gemini for end-to-end SDLC**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8800735?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8800735?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

## **Generative AI with Vertex AI: Text Prompt Design**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/4320684](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/4320684)

## **Getting Started with Mistral - DeepLearning.AI**

<https://learn.deeplearning.ai/accomplishments/3d3cb6cf-c5bf-4a3a-8987-ed4dc5e9e275?usp=sharing>

## **Implementing Generative AI with Vertex AI**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/4312517](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/4312517)

## **Transformer Models and BERT Model**

[https://www.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/3752860](https://www.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/3752860)

## **Vertex AI Search**



[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8807301?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8807301?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

### **Attention Mechanism**

[https://www.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/3752811](https://www.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/3752811)

### **Create Image Captioning Models**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/4281301](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/4281301)

### **Data Engineering**

[https://partner.cloudskillsboost.google/public\\_profiles/3bb5669d-7bbc-4077-9964-ca102a26e2e5/badges/3255851](https://partner.cloudskillsboost.google/public_profiles/3bb5669d-7bbc-4077-9964-ca102a26e2e5/badges/3255851)

### **Encoder-Decoder Architecture**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/3894772](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/3894772)

### **Introduction to Image Generation**

[https://www.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/3752882](https://www.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/3752882)

### **Introduction to Large Language Models**

[https://www.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/3752780](https://www.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/3752780)

### **Migrating to Google Cloud**

[https://partner.cloudskillsboost.google/public\\_profiles/3bb5669d-7bbc-4077-9964-ca102a26e2e5/badges/3256151](https://partner.cloudskillsboost.google/public_profiles/3bb5669d-7bbc-4077-9964-ca102a26e2e5/badges/3256151)

### **Responsible AI: Applying AI Principles with Google Cloud**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/4292289](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/4292289)

### **Vector Search and Embeddings**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8479066?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/8479066?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

### **Introduction to Responsible AI**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/3871553](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/3871553)

### **Advanced ML: ML Infrastructure**

[https://partner.cloudskillsboost.google/public\\_profiles/3bb5669d-7bbc-4077-9964-ca102a26e2e5/badges/3169855](https://partner.cloudskillsboost.google/public_profiles/3bb5669d-7bbc-4077-9964-ca102a26e2e5/badges/3169855)

### **Automated Testing for LLMops - DeepLearning.AI**

<https://learn.deeplearning.ai/accomplishments/db05ab7d-ecda-41bd-bebb-20757418e5c1?usp=sharing>

### **Building and Evaluating Advanced RAG - DeepLearning.AI**

<https://learn.deeplearning.ai/accomplishments/d9ff74a7-08be-4b3b-a6a1-0c43e19cf02a?usp=sharing>

### **Cloud Architecture**

[https://partner.cloudskillsboost.google/public\\_profiles/3bb5669d-7bbc-4077-9964-ca102a26e2e5/badges/3178100](https://partner.cloudskillsboost.google/public_profiles/3bb5669d-7bbc-4077-9964-ca102a26e2e5/badges/3178100)

### **Finetuning Large Language Models - DeepLearning.AI**

<https://learn.deeplearning.ai/accomplishments/ebeaaf6d-6b75-43e8-9783-3c081f120ec1?usp=sharing>

### **Knowledge Graphs for RAG - DeepLearning.AI**

<https://learn.deeplearning.ai/accomplishments/45056616-7f30-48a7-a28b-fed489666228?usp=sharing>

### **LLMOps - DeepLearning.AI**

<https://learn.deeplearning.ai/accomplishments/83d31571-3c9d-43a3-97e1-02a8f1b5e847?usp=sharing>

### **LangChain Chat with Your Data - DeepLearning.AI**

<https://learn.deeplearning.ai/accomplishments/4ab785ad-efea-481d-9e44-048434dd76ff?usp=sharing>

### **LangChain for LLM Application Development**

<https://learn.deeplearning.ai/accomplishments/4810ed4e-0fbb-4568-ac46-78d823cdd429?usp=sharing>

### **Open Source Models with Hugging Face - DeepLearning.AI**

<https://learn.deeplearning.ai/accomplishments/5045694c-7f95-49f8-ae97-b09eac9099da?usp=sharing>

### **Perform Foundational Data, ML, and AI Tasks in Google Cloud**

[https://partner.cloudskillsboost.google/public\\_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/7800502?utm\\_medium=social&utm\\_source=linkedin&utm\\_campaign=ql-social-share](https://partner.cloudskillsboost.google/public_profiles/4daa932a-e846-4729-8528-75bb30017fd4/badges/7800502?utm_medium=social&utm_source=linkedin&utm_campaign=ql-social-share)

### **Prompt Engineering with Llama 2 - DeepLearning.AI**

<https://learn.deeplearning.ai/accomplishments/cf903706-46b3-4342-8ae6-554dc86bdd81?usp=sharing>

### **Reinforcement Learning From Human Feedback - DeepLearning.AI**

<https://learn.deeplearning.ai/accomplishments/48d228df-ac51-4d1b-92a8-884ff4400651?usp=sharing>

### **Cloud Engineering**

[https://partner.cloudskillsboost.google/public\\_profiles/3bb5669d-7bbc-4077-9964-ca102a26e2e5/badges/3169194](https://partner.cloudskillsboost.google/public_profiles/3bb5669d-7bbc-4077-9964-ca102a26e2e5/badges/3169194)

### **Create and Manage Cloud Resources**

[https://partner.cloudskillsboost.google/public\\_profiles/3bb5669d-7bbc-4077-9964-ca102a26e2e5/badges/2853208](https://partner.cloudskillsboost.google/public_profiles/3bb5669d-7bbc-4077-9964-ca102a26e2e5/badges/2853208)

### **Perform Foundational Infrastructure Tasks in Google Cloud**

[https://partner.cloudskillsboost.google/public\\_profiles/3bb5669d-7bab-4077-9964-ca102a26e2e5/badges/2796762](https://partner.cloudskillsboost.google/public_profiles/3bb5669d-7bab-4077-9964-ca102a26e2e5/badges/2796762)

### **Using the Cloud SDK Command Line**

[https://partner.cloudskillsboost.google/public\\_profiles/3bb5669d-7bbc-4077-9964-ca102a26e2e5/badges/3187471](https://partner.cloudskillsboost.google/public_profiles/3bb5669d-7bbc-4077-9964-ca102a26e2e5/badges/3187471)

### **Baseline: Data, ML, AI**

[https://partner.cloudskillsboost.google/public\\_profiles/3bb5669d-7bbc-4077-9964-ca102a26e2e5/badges/3251367](https://partner.cloudskillsboost.google/public_profiles/3bb5669d-7bbc-4077-9964-ca102a26e2e5/badges/3251367)

### **2024 Generative AI Certified Professional - Oracle Cloud Infrastructure**

link: <https://catalog-education.oracle.com/pls/certview/sharebadge?id=AFB06F65C4B2736A280521F722CD7A577321D6B480B47174C6E90C73FBE0AA7E>

Individuals who earn this credential have a strong understanding of the Large Language Models (LLMs) and are skilled at using OCI Generative AI Service. They are also familiar with techniques such as Retrieval-Augmented Generation, Semantic Search, Vector database, and LangChain, to build, trace, evaluate, and deploy LLM applications.

### **Build and Deploy a Generative AI Solution Using a RAG Framework Skill Badge**

<https://www.credly.com/badges/f745553b-1afc-4347-b4ee-7b6e3ca1d9d7>

Complete the advanced Build and Deploy a Generative AI Solution Using a RAG Framework skill badge to demonstrate skills in the following areas: RAG, Prompt Engineering and Embeddings.

Skills

Embeddings

Prompt Engineering

RAG

## HONORS & AWARDS

MBA, Dean's List, Beta Gamma Sigma Honors Society, Teaching Assistant

Bachelors, Mechanical Engineering, Honors

## LANGUAGES

English - Fluent

Spanish - Advanced

Tamil - Fluent

Hindi - Intermediate

Telugu - Intermediate

## EXTRACURRICULARS

Tracks

## WORK AUTHORIZATION

I am authorized to work in the following countries:

- United States