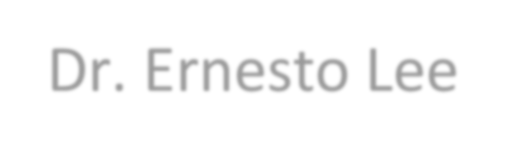


(https://drlee.io)

MICROSOFT CERTIFIED AZURE DATA SCIENTIST AWS CERTIFIED DEVOPS ENGINEER AWS CERTIFIED SOLUTIONS ARCHITECT



[Dr. Ernesto Lee](https://drlee.io/)

**EDUCATION**

2022 Doctorate of Business Administration: Business Analytics, Baker College

1999 Master of Science Degree in Software Engineering, Virginia Tech – Blacksburg, VA

1997 Bachelor of Science Degree in Physics, Old Dominion University – Norfolk, VA

**CERTIFICATIONS**

AWS SysOps Specialists Microsoft Certified Data Scientist

AWS Certified DevOps Professional Cloudera Developer Certification Scrum.org Certified ScrumMaster

**PROFESSIONAL EXPERIENCE**

Trivera Technologies, Fort Lauderdale, FL 2020 – Present Lead Data Scientist and Innovation Officer

* **Exploration and Application of AI Technologies:**
  + Led the exploration and application of Large Language Models and Generative AI, venturing into new areas within these fields.
  + Developed and deployed AI solutions using Azure AI services and tools, such as Azure Machine Learning, Azure Cognitive Services, Azure Databricks, and Azure Synapse Analytics.
* **AI Pipeline Development:**
  + Designed, developed, and maintained AI pipelines for various business use cases.
  + Implemented best practices for data ingestion, transformation, and storage using Azure Data Factory, Azure Blob Storage, and Azure Data Lake.
* **Machine Learning & NLP Implementation:**
  + Implemented and deployed machine learning and deep learning models using TensorFlow, PyTorch, and Caffe.
  + Developed and maintained NLP pipelines for tasks such as risk assessment, threat classification, named entity recognition, information retrieval, and summarization.
  + Fine-tuned and trained models, ensuring optimal performance across diverse languages and dialects.
* **Performance Optimization and Monitoring:**
  + Optimized and monitored AI pipelines, models, and applications using Azure DevOps, Azure Application Insights, and Azure Monitor.
  + Performed experiments and comparative analysis to evaluate the effectiveness of different model architectures and fine-tuned hyperparameters for optimal performance.
* **Collaboration and Communication:**
  + Collaborated with engineers, data scientists, and business stakeholders to ensure the quality, performance, and scalability of AI solutions.
  + Communicated and documented AI solutions and architectures to both technical and non-technical audiences.
* **Research and Evaluation:**
  + Researched and evaluated new AI technologies and frameworks to improve AI capabilities and performance.
  + Published research in the NLP field, contributing to cutting-edge advancements in AI technology.

**Project Successes:**

* **AI-Driven Risk Assessment System:**
  + Led the development of an AI-driven risk assessment system that improved threat detection accuracy by 40% using advanced NLP techniques.
  + Successfully integrated the system with Azure Cognitive Services, providing real-time insights and alerts.
* **Automated Data Processing Pipeline:**
  + Designed and deployed an automated data processing pipeline using Azure Data Factory and Azure Data Lake, reducing data processing time by 60%.
  + Enhanced data quality and reliability, leading to more accurate and timely business insights.
* **NLP-Based Customer Support Solution:**
  + Developed an NLP-based customer support solution that improved response times and customer satisfaction by 35%.
  + Implemented sophisticated named entity recognition and sentiment analysis models to better understand and respond to customer inquiries.
* **Scalable AI Infrastructure:**
  + Built and maintained a scalable AI infrastructure on Azure, supporting multiple AI projects and enabling rapid deployment and scaling of AI models.
  + Implemented continuous integration and continuous deployment (CI/CD) practices using Azure DevOps, ensuring robust and reliable AI deployments.

Miami Dade College, Fort Lauderdale, FL 2022 – Present Assistant Professor

* I teach Data Analytics and Data Science courses in the Data Analytics Bachelor's Program
* I created and lead the Data Analytics Showcase event at Miami Dade College
* I am on the AI Task Force for integrating AI into all aspects of the college
* I create data centric curriculum and teach for the Kendall Campus
* I mentor students (Data Analysts)
* I am the co-Principal Investigator for a National Science Foundation grant.

TechBlue, Inc., Fort Lauderdale, FL 2018– 2020

Chief Data Officer

* Provided Data Driven IT solutions for Government clients
* Senior OS Engineer for clients (RHEL 7)
* Cloud Architect for IRS RAAS Implementation (Kubernetes and Docker Infrastructure)
* Developed Blockchain HyperLedger Fabric Proof of Concept
* Developed Deep Learning models to forecast and predict revenue gaps at the IRS based on profiles
* Assisted various government clients (IRS, DHS, FDA) achieve higher accuracy on several ML models
* Assisted in the development of data policy for the IRS after the 2019 Tax filing

Blockchain Training Alliance, Fort Lauderdale, FL 2018– 2020

Chief Operating Officer and Founder

* Developed the customer analytics to grow the company
* Developed the core Blockchain Infrastructure (RHEL 7 / Docker / Kubernetes / Hyperledger Fabric)
* I served as a coach to the Walmart Blockchain team on the Food Trust network project
* Worked with the Linux Foundation and EdX.org to create Blockchain: Understanding its Use Cases (with over 100,000 students) - [https://www.edx.org/course/blockchain-understanding-its-uses-and-](https://www.edx.org/course/blockchain-understanding-its-uses-and-implications?index=product&queryID=5250160cf13fa78e8c84993da3ec07d0&position=3) [implications?index=product&queryID=5250160cf13fa78e8c84993da3ec07d0&position=3](https://www.edx.org/course/blockchain-understanding-its-uses-and-implications?index=product&queryID=5250160cf13fa78e8c84993da3ec07d0&position=3)
* Used Data Science (Marketing Analytics) to identify the customer base most likely to benefit from our services and allocated budget to grow both B2C and B2B clients
* Company sold to a publicly traded company (The Crypto Co) April 2021

Learning Voyage/CONSULTANTS NETWORK / ORACLE, Fort Lauderdale, FL 2012 – Present Lead Data Analyst

* Founded the Florida Center for Advanced Analytics and Data Science
* Published over 15 Data Analytics and Data Science research articles in top tier research journals (IEEE, Journal of Nature, MDPI, Journal of Advanced Astronomy, and others)
* Tableau and PowerBI SME
* Worked as a consultant at numerous fortune 500 corporations (Kaiser Permanente, Cisco, Walmart, and many others)
* Developed the certified Data Analytics and Data Science bootcamp in use at JP Morgan Chase in conjunction with the the Chief Data Officer of JPMC
* Developed the AI model for the IDS (Intrusion Detection System) at Kaiser Permanente
* Building, publishing customized interactive reports and dashboards, report scheduling using Tableau server.
* Created action filters, parameters and calculated sets for preparing dashboards and worksheets in Tableau.
* Restricted data for particular users using Row level security and User filters.
* Developed Tableau visualizations and dashboards using Tableau Desktop.
* Developed Tableau workbooks from multiple data sources using Data Blending.
* Lead Solution Architect for BNC Bank (bnc.ca) in Montreal Canada for the SOA - OIM/OAM/OAAM external customer facing project. OIM uses extensive SOA Suite 11g and 12c. The LDAP for these solutions were all OUD 11g.

FOOD AND DRUG ADMINISTRATION (FDA) / TKC GLOBAL, Fort Lauderdale, FL 2011 – 2012

Senior Solutions Architect

* Worked on the MARCS 2.0 project as an Oracle Specialist
* Provided coaching in SOA Suite, Oracle Service Bus, Oracle Security(OIM,OAM,OID,ODSEE,OUD), Oracle Business Intelligence, and the Exa\* suite of products (ExaLogic, and ExaData)
* Configured schemas on Oracle Database 11g and provided purging and design support
* Developed one Database Adapters, two LDAP Adapters, and one Join View Adapter for Marcs project

Bank of America, Fort Lauderdale, FL 2009 – 2011

Assistant Vice President – Solutions Architect

* Managed numerous projects for IT channel
* Managed firewall requests for the channel
* Performed troubleshooting and analysis of domains
* Worked with several technical teams and architects to create and build IT environments for numerous CPO (Cash Pro Online) projects
* WebLogic SME

IBM, Fort Lauderdale, FL 2006 – 2009

Team Lead & Senior Engineer

* Managed WebLogic and WebSphere environment of over 250 Server Instances for a large financial client
* Configured F5 Load Balancer to interface with IIS, Apache, and iPlanet front ends
* Supported shared JMS and JDBC Environment for hosted applications
* Administered WebLogic and WebSphere on Solaris and AIX environments
* Heavy script development using WLST, Mbeans and ksh to automate deployments and monitor server health
* Serviced: ING North America, GMAC / Ally

WELLS FARGO, Fort Lauderdale, FL 2008 – 2009

Senior Engineer

* Managed WebLogic and WebSphere environment of over 400 Server Instances for Wells Fargo
* Configured and managed Apache, and iPlanet
* Supported security compliance and server hardening efforts for the production environment
* Generated and managed the certificate process for CSS and WebLogic/WebSphere servers
* Heavy script development using WLST, Mbeans and ksh to automate deployments and monitor server health

ORACLE / BEA SYSTEMS INC., Burlington, MA 2006 – 2006

Senior Developer Relations Engineer – Backline Support Group

* Managed WebLogic Portal and WebLogic Server cases and customer issues independently.
* Provided mentoring on areas of proficiency or practices to peers or less experienced developers
* Traveled to customer sites to collect information or troubleshoot environment sensitive problems
* Performed solutions analysis to all customer problems
* Leveraged several internet protocols (http, https, dns, tcp/ip, LDAP, SNMP) to optimize the Application Server layer
* Specialized in WebLogic, WLI, WL Portal, and other BEA Products
* Mentored and trained Junior Engineers

CONSULTANTS NETWORK, Cincinnati, OH 2001 – 2006 and 2010-2017

Software Engineer – Application Server Group

* Designed, administered and implemented various web applications on BEA WebLogic Version 5.X through 9.0 in support of BEA Clients.
* Implemented new services as portlets on BEA WebLogic Portal 8.1 for a large Mortgage company
* Maintained and supported applications for several different projects for large financial institutions, insurance and telecom companies
* Worked in all phases of a project, from pilot installation, unit testing, problem determination, configuration investigation, configuration changes, code investigation, code fix, production installation and monitoring.
* Deep understanding of the WebLogic Application Server and the associated tools such as WebLogic Portal,

WebLogic Integration, WebLogic Workshop

* Technically managed heterogeneous teams working on diagnosing very complex problems
* Taught over 100 courses for BEA in support of the BEA Certification effort to include: Developing Web Applications on BEA WebLogic, Developing Portals with WebLogic Portal, EJB Development on WebLogic Server, WebLogic Administration, WebLogic Portal Administration, WebLogic Integration, Rapid Application Development with WebLogic Workshop. These courses were taught on WebLogic Versions 5.X through 9.0.

NORTHERN VIRGINIA COMMUNITY COLLEGE, Woodbridge, VA 1998 – 2001

Associate Professor (Tenured)

* Designed and implemented the Business and Social Sciences Division web applications.
* Performed webmaster duties for B&SSD
* Taught Software Development Life Cycle (SDLC), Java and Oracle courses
* Served as Department Head for the Department of Information Systems Technology

COMPUTER SCIENCES CORPORATION (CSC), King George, VA 1996 – 1998

Programmer / Analyst

* Reviewed, analyzed, and modified programming systems including encoding, testing, debugging and installing to support the U.S. Naval warfare application systems.
* Consulted with users to identify current operating procedures and clarified program objectives for feature adds in version releases.
* Wrote the manual for users to describe installation and operating procedures of the Navigation and Display.

**SUMMARY OF QUALIFICATIONS**

* I am a Data Science / Analytics Consultant with deep experience in Deep Learning and Large Language Models
* I am a Deep Learning Researcher ( <https://scholar.google.com/citations?user=eHc8Yc4AAAAJ&hl=en&oi=ao>)
* I have published several books on AI/ML and Big Data
* I am a faculty member at Florida Atlantic University where I teach Data Analytics and AI Courses
* Data Analytics with Python Book was a number 1 best seller on Amazon
* Engaging with Directors and C-level executives to define Enterprise cloud strategies
* Identifying motivators for cloud adoption and unlocking Enterprise challenges
* Analyzing application portfolios, identifying dependencies & common ML infrastructure platform components, and assessing migration feasibility
* Architecting hybrid AWS / Azure and on-premise solutions for technology clusters and patterns
* Establishing shared IT service centers for Cloud operations
* Cost/Benefit modeling and creating compelling business cases for migration
* Generating AWS /Azure migration roadmaps and driving buy-in across complex organization structures
* **I am a writer (here is my blog:** [**https://drlee.io**](https://drlee.io/) **) TECHNICAL SKILLS**
* Cloud Computing Platforms: Proficient in Amazon Web Services (AWS), Microsoft Azure, and Google Cloud Platform (GCP), with skills in cloud architecture, cloud security, and cloud-based data warehousing.
* Containerization & Orchestration: Fluent with Kubernetes; experienced in creating, deploying, and managing containers on various cloud platforms.
* Blockchain Technologies: Proficient in blockchain development with HyperLedger Fabric and Ethereum.
* Machine Learning & Data Science: Skilled in core Machine Learning algorithms, including supervised and unsupervised learning, feature engineering, and model evaluation. Experienced in using ML frameworks like TensorFlow and PyTorch.
* Deep Learning: Proficient in building and deploying deep learning models, including Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), and Transformers. Experience with Natural Language Processing (NLP) and Computer Vision applications. Proficient in Cloud AI platforms (Azure, AWS,GCP)
* Data Management & Analytics: Experienced in Data Mining, Data Ethics, and Data Analytics. Proficient in utilizing analytics tools such as Tableau, PowerBI, and OBIEE for data visualization and business intelligence.
* Microservices & Serverless Architecture: Skilled in designing and implementing microservices and serverless architectures, leveraging AWS Lambda, Azure Functions, and Google Cloud Functions.
* DevOps: Proficient in DevOps practices and tools, including CI/CD pipelines, infrastructure as code, and monitoring & logging solutions like AWS CloudWatch, Azure Monitor, and Google Stackdriver.
* Big Data Technologies: Experienced with big data tools and platforms on AWS, Azure, and GCP, including Hadoop, Spark, and BigQuery.
* AI & ML Services on Cloud: Proficient in utilizing AI and ML services provided by AWS, Azure, and GCP for building, training, and deploying machine learning models at scale.

**ACADEMIC RESEARCH:**

How do we build trust in machine learning models? E Lee

Available at SSRN 3822437 5 2021

Non-invasive driver drowsiness detection system

HUR Siddiqui, AA Saleem, R Brown, B Bademci, E Lee, F Rustam, ... Sensors 21 (14), 4833 2 2021

A novel approach to railway track faults detection using acoustic analysis R Shafique, HUR Siddiqui, F Rustam, S Ullah, MA Siddique, E Lee, ...

Sensors 21 (18), 6221 1 2021

Sentiment Analysis and Topic Modeling on Tweets about Online Education during COVID-19 M Mujahid, E Lee, F Rustam, PB Washington, S Ullah, AA Reshi, I Ashraf

Applied Sciences 11 (18), 8438 1 2021

Analysis and Evaluation of Barriers Influencing Blockchain Implementation in Moroccan Sustainable Supply Chain Management: An Integrated IFAHP-DEMATEL Framework

O Boutkhoum, M Hanine, M Nabil, F El Barakaz, E Lee, F Rustam, I Ashraf Mathematics 9 (14), 1601 1 2021

Integrating Learning Analytics and Collaborative Learning for Improving Student’s Academic Performance A Rafique, MS Khan, MH Jamal, M Tasadduq, F Rustam, E Lee, ...

IEEE Access 2021

Predicting Pulsars from Imbalanced Dataset with Hybrid Resampling Approach E Lee, F Rustam, W Aljedaani, A Ishaq, V Rupapara, I Ashraf

Advances in Astronomy 2021 2021

Deepfake tweets classification using stacked Bi-LSTM and words embedding V Rupapara, F Rustam, A Amaar, PB Washington, E Lee, I Ashraf

PeerJ Computer Science 7, e745 2021

EXAMINING THE ROLE OF UNCERTAINTY AS A MODERATOR ON CONSUMERS’ PURCHASE INTENTIONS TOWARD ORGANIC FOOD IN ONLINE ENVIRONMENT: A COMPARATIVE STUDY

E Lee, P Washington, S Ur Rehman, R Hameed, L Alzahrani

Tianjin Daxue Xuebao (Ziran Kexue yu Gongcheng Jishu Ban)/ Journal of … 2021

BRICS-Eurasian Credit Markets: Problems and Prospects I Yarygina, I Lukashenko, E Lee, P Washington, R Tsarev

Proceedings of the Computational Methods in Systems and Software, 296-318 2021

Vector mosquito image classification using novel RIFS feature selection and machine learning models for disease epidemiology

F Rustam, AA Reshi, W Aljedaani, A Alhossan, A Ishaq, S Shafi, E Lee, ...

Saudi Journal of Biological Sciences 2021

Respiration Based Non-Invasive Approach for Emotion Recognition Using Impulse Radio Ultra Wide Band Radar and Machine Learning

HUR Siddiqui, HF Shahzad, AA Saleem, AB Khan Khakwani, F Rustam, ...

Sensors 21 (24), 8336 2021

Deep Learning Based Early Detection Framework for Preliminary Diagnosis of COVID-19 via Onboard Smartphone Sensors H Khaloufi, K Abouelmehdi, A Beni-Hssane, F Rustam, AD Jurcut, E Lee, ...

Sensors 21 (20), 6853 2021

Malicious Traffic Detection in IoT and Local Networks Using Stacked Ensemble Classifier RDPL Indrasiri, E Lee, V Rupapara, F Rustam, I Ashraf 2021