

Amey Ambade

Senior Data Scientist | Machine Learning

ameyambade@gmail.com | (646) 961-8378 | [linkedin/ameyambade](https://www.linkedin.com/in/ameyambade) | [github/ameyxd](https://github.com/ameyxd) | heyamey.com

WORK EXPERIENCE

SLB | SENIOR DATA SCIENTIST - MACHINE LEARNING

Houston, TX | 2023 – present

- Led technical teams in next-gen applied ML for asset performance management and system optimization offerings under the Digital Twin framework.
- Delivered client-facing SaaS solutions for integrating research-based LLM (Large Language Model) applications with internal data science orchestration platforms and external data lakes, generating \$3M in revenue (Q1 2024).
- Built the SLB Vision Analytics suite, including fire and smoke detection, people counters, personal protective equipment (PPE) detection, pose estimation and tracking systems using transfer learning and computer vision models like YOLOv5 for real-time video camera feeds. Generated \$4.5M in revenue from ongoing client contracts, improved field safety by 45%, reduced risk associated with improper PPE by 35%, and reduced the client engineering safety team surveillance time by 30%. Tech: **computer vision, deep learning, transfer learning**.
- Led technical data science and management efforts for a 3-person team, to build an **end-to-end machine learning service** with real-time control optimization for dynacard **image classification** models to identify failure signatures in 100+ wells for a large American firm. Resulted in \$10M+ in operational savings, 60 % faster detection time while reducing downtimes by 19%. Tech: **deep learning, computer vision, TensorFlow, Docker, Flask, IoT Edge devices**.
- Designed, built and productionized Smart Surveillance, an **ML** solution for hydrate detection for an international firm generating \$2M+ in revenue, boosting production by 15%, reducing labor by 12%. Tech: **Keras, Dataiku**
- Developed systems to detect emulsions for South American fields using **multivariate time series ensemble tree models**, reducing non-productive time by 25% and saving \$1M+ in maintenance costs. Tech: **TensorFlow, Dataiku**

SCHLUMBERGER | DATA SCIENTIST

Houston, TX | 2018 - 2023

- Developed **failure and anomaly prediction** models for Prognostic Health Management, implemented ML backend infrastructure and drove collaboration by partnering with field, client, and product teams to build apps to visualize wells based on their production rates using machine learning. Tech: **Azure ML, TensorFlow, Dataiku**
- Built a **deep learning**-based CNN model to classify erosion levels in mechanical tools and deployed a scalable cloud-based API, increasing precision by 8% and reducing detection time by 10%. Tech: **TensorFlow, Docker, Flask**
- Built a health analyzer application using **unsupervised learning** to predict tool failures to aid scientists and engineers. Tech: **Python, TensorFlow, FastAPI**

COLUMBIA UNIVERSITY | COLUMBIA LAW SCHOOL | GRADUATE RESEARCHER

New York, NY | 2018

- Built a session-based recommendation system using a deep learning-based encoder-decoder architecture incorporating contextual information from users and an attention mechanism, improving displayed recommendations in e-commerce scenarios by 3% over present baselines on the YouChoose dataset (CNARM).
- Developed NLP and ML software to predict outcome of contractual damage lawsuits to benefit academics in debates, parties in drafting contracts, counsels in pre-trial exchanges and judges in rulings, now part of Optimalex, an AI-based legal predictive analytics solution for insurance claims.

ECOLE INTERNATIONALE (EISTI) | SOFTWARE ENGINEER INTERN

Paris, France | 2016

- Built automatic data extraction and analysis models using NLP and machine learning for AREL, an e-learning platform used by 1500+ French students and alumni.
- Developed software to restructure the web app, enhancing app usability.

EDUCATION

M.S. Computer Science (Machine Learning Specialization)

New York, NY | 2018

COLUMBIA UNIVERSITY

B.Tech. Computer Science and Engineering

Indore, India | 2017

INDIAN INSTITUTE OF TECHNOLOGY (IIT)

PATENTS AND PUBLICATIONS

IS23.1285 Wellsite Operations Machine Vision Framework

IS23.1230 SRP Operations Diagnosis Solutions

US-18/891,485 Artificial Intelligence-Driven Real-Time Dynamometer Classification for Diagnosis of SRPs

US-63/300,121 Machine Vision Workflow for Wellsite Operations

US-63/300,121 Real-Time ESP Smart Alarms Suite Enabled Through Data Analytics and Edge-Based Multiphase Flow Simulator

US-63/358,189 Failure Prediction for Run-Life Estimation of ESPs for PHM

US-63/389,627 Machine Learning Model Operationalization Management Framework for Continuous Updates on IIoT Devices

2024 ADIPEC Enhancing Edge-Based SRP Production Optimization Algorithm with Fast Loop Mitigation

2024 SPE CETC Real-Time Well Constraint Detection Using an Intelligent Surveillance System

2022 ATCE Real-time Smart Alarms Suite Enabled Through Data Analytics and Edge-based Virtual Flowmeter

2021 SPE Symposium Electrical Submersible Pump Prognostics and Health Monitoring using Machine Learning and NLP

SKILLS

Programming Languages Python, SQL, R, C++

Tools and Frameworks TensorFlow, Keras, Sklearn, Numpy, Pandas, PyTorch, Docker, Dataiku, OpenCV, Azure ML, Google Vertex AI, Git, FastAPI

PROFESSIONAL CONTRIBUTIONS AND SERVICE

SPE ATCE 2024 **Chief Judge**, International Student Paper Contest

SciPy Conference 2024 **Proceedings Chair**, Scientific Computing with Python

Optimalex **Senior Technical Advisor**, Predictive Analytics

AI in Oil and Gas Conference 2024 **Speaker**, Energy Conference Network

SciPy 2023 **Conference Reviewer**, Scientific Computing with Python

Loyola of Los Angeles Int'l and Comparative Law Review (ILR), Vol. 46, No. 1, 2023 **Acknowledged Contributor**, Damage to Reputation: A Comparative Analysis of Pecuniary Compensation for Non-Pecuniary Harm

St. Thomas Journal for Complex Litigation (JCL) 2023 **Acknowledged Contributor**, Predictive Damages Awards: A Comparative Law & Economics Analysis on Contract Breach Litigation in American Common Law, French Civil Law, and International Commercial Law

Dell Dataiku Data Science Connect 2022 **Panelist** and Presenter

DataCan 2022 **Panelist**, Computer Vision through a Magnifying Glass

AWARDS

Performed by SLB Award 2022 for Technical Excellence and Achievements in Cross-Domain AI/ML Product Development

MLOps World Winner 2021 Dataiku Box of Awesome Challenge

Performed by SLB Award 2021 for Exceptional Development and Management of a High-Priority International Stakeholder Project

Petro.AI Hackathon Silver Award 2020 for Harris County Public Health Hacking for Houston

SLB BeOutstanding Award 2020 for Excellence in Client Engagement and Satisfaction through Building AI and ML Solutions

PROFESSIONAL MEMBERSHIPS

Association for Computing Machinery (ACM) Member, Artificial Intelligence Special Interest Group (SIGAI)

Institute of Electrical and Electronics Engineers (IEEE) Member, IEEE Computer Society

Society of Petroleum Engineers (SPE) Member, Data Science and Engineering Analytics and Management

VOLUNTEERING

SciPy Conference	Organizing Team Member
IEEE Computer Society	Artificial Intelligence Standards Committee (C/AISC) Member
Columbia Alumni Association	Organizing Team Member
Columbia University	SLB Campus Recruitment Manager
OIT	Houston Chapter Leadership Team Member
OIT University (OIT-U)	Admissions Team Lead for Diversity, Equity and Inclusion
Houston Humane Society	Pet Adoption Coordinator