Shaddy Garg

Machine Learning Engineer 4 · Adobe

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Machine learning engineer and researcher building enterprise AI, intelligent data systems, and reliable cloud infrastructure. Published across VLDB, AAAI, SIGMOD, WWW, ASE, and FSE, with experience moving research from prototypes into production-scale Adobe systems.

EXPERIENCE

Adobe

Aug 2020 — Present

Machine Learning Engineer 4 · Feb 2026 — Present

- Build production enterprise AI systems spanning LLM orchestration, grounded conversational assistants, semantic retrieval, natural-language data exploration, and evaluation.
- Contribute to the AI Assistant in Adobe Experience Platform, combining structured-data reasoning, retrieval over enterprise knowledge, modular onboarding, and continuous quality measurement.
- Design for production constraints including grounding, auditability, evolving data and schemas, latency, failure diagnosis, and reliable expansion across domains.

Machine Learning Engineer 3 · Feb 2023 — Feb 2026

- Developed applied ML and data-system research across Text-to-SQL robustness, reinforcement-learning-driven approximate analytics, and proactive cloud reliability.
- Co-authored nine publications across VLDB, AAAI, SIGMOD, WWW, ASE, FSE, and VISSOFT; contributed to five patented inventions spanning enterprise AI, databases, and outage forecasting.
- Built outage forecasting and diagnosis approaches that achieved 0.98 average AUC and reduced mean time to detection by up to 88% in an enterprise cloud-service deployment.

Research Associate 2 (2022–23) · Research Associate (2020–22)

Adobe Research

May — Jul 2019

Research Intern

Developed an ML proof of concept for customer–marketer interactions, combining customer psychology with explainable machine learning.

OWASP Foundation

May — Aug 2018

Google Summer of Code · OWASP Nettacker

Contributed database support, fuzzing, transforms, and security-scanning modules to the open-source automated penetration-testing framework.

SELECTED PUBLICATIONS

Building, Serving, and Growing a Conversational AI Assistant for Enterprise
SIGMOD Companion · 2026

EvoSchema: Towards Text-to-SQL Robustness Against Schema Evolution
PVLDB · 2025

Reinforced Approximate Exploratory Data Analysis
AAAI · 2023

CausIL: Causal Graph for Instance Level Microservice Data
The Web Conference · 2023

ESRO: Experience Assisted Service Reliability Against Outages
ASE · 2023

Outage-Watch: Early Prediction of Outages Using Extreme Event Regularizer
ESEC/FSE · 2023

EXPERTISE

Machine Learning · Large Language Models · Enterprise AI · Text-to-SQL · RAG · Reinforcement Learning · Causal Inference · Cloud Reliability · Data Systems · Cybersecurity

SELECTED PATENTS

Intent-Aware RL for Interactive Data Exploration

Approximate Query Processing for JOINs

Concept Graphs for LLM Database Queries

System and Method for Outage Forecasting

Inferring Unobserved Event Probabilities

EDUCATION

Indian Institute of Technology Roorkee

B.Tech, Electronics & Communication Engineering
Minor, Computer Science · 2016–2020

RECOGNITION

Outstanding Young Engineer Award
Adobe · 2023

Google Summer of Code
OWASP · 2018

AISS Security Hackathon
Winner · 2018

Technex CTF
Global Rank 2 · 2019

Brainwaves Cyber Security Challenge
Runner-up · 2019

BSides Delhi CTF
Second runner-up

KVPY Scholar · AIR 963
JEE Advanced · 2016

LANGUAGES

English · Punjabi · Hindi