

HARSH AGARWAL

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EXPERIENCE

Machine Learning Engineer 3 | Adobe Inc.

Jun 2019 - Present | Noida, India

Working in the Adobe's Genuine org's ML team to detect users using pirated Adobe products and users involved in fraudulent activities that breach Adobe's policies.

Fraud Detection & Risk Assessment

- Led the development of a ML model to detect **account sharing**, increasing **conversion rates by 5%+** to paid subscriptions.
- Designed and implemented a **risk assessment and scoring engine**, leveraging user attributes (e.g., email, IP, device) to identify **20% more suspicious users** compared to prior solutions.
- Built ML models to detect **trial abuse**, **bot abuse**, **serial number leakage**, and other fraudulent activities, ensuring compliance with Adobe policies.

Piracy Detection

- Developed a **scraper service** to track online piracy conversations across multiple platforms (Torrents, Reddit, YouTube, etc.) that lead to **detection of new hacked software within 24 hrs of release**.
- Created machine learning models to **score piracy levels** on web pages and **classify** the nature of online conversations.
- Developed **desktop applications** for Windows & macOS using **C++** and **Chromium Embedded Framework (CEF)** to identify & notify users using pirated Adobe applications.
- Transitioned Intel-based macOS client to arm64 architecture following the release of **Apple Silicon**.

Security & Product Hardening

- Enhanced application security by **resolving critical PSIRTs** and implementing **sandboxing** for desktop services on Windows and macOS.

Android Developer | Prasar Bharati

Sep 2018 - Sep 2019 (Part-time) | New Delhi, India

- Developed the **official Android app** for All India Radio News and published it on the Google Play Store ([link](#)).
- Integrated 230+ Live radio channels, Live TV, Podcasts, archived Video Programs, notifications and text News in multiple languages.

Product Intern | Adobe Inc.

May 2018 - Jul 2018 | Noida, India

- Worked in Adobe's cloud infrastructure team.
- Developed a time series **ML model** for predicting **dynamic resource allocation** on cloud that **reduced over-allocation by 85%**.

Software Engineering Intern | InterGlobe Technologies

Jul 2017 - Jul 2017 | Gurugram, India

- Developed an **Android app** for automated self-check-in at hotels.
- Implemented passport date scanning, visitor's face recognition using **Google's Vision API** and QR code scanning using **Zxing library** for booking confirmation.

PATENT & RESEARCH PUBLICATIONS

Patent: Techniques for predicting leakage of a serial number
[US 11995158 B2](#)

Research: A seven-layer model with checklists for standardising fairness assessment throughout the AI lifecycle
[AI and Ethics 4 \(2\), 299-314, 2024](#)

Research: Fairness Score and process standardization: framework for fairness certification in artificial intelligence systems
[AI and Ethics 3 \(1\), 267-279, 2023](#)

RECOGNITIONS

- Awarded **Adobe Tech Excellence Award 2024**.
- Won multiple **Hackathons** at Adobe.
- Received multiple **quarterly performance awards** at Adobe.

SKILLS

Languages: Python, C++, PHP

Machine Learning & AI:

Concepts: NLP, LLMs, Responsible & Ethical AI, Fraud Detection

Frameworks & Tools: PyTorch, AWS SageMaker

Data & Visualisation Tools: MySQL, Databricks, AWS Athena, Neo4j, Tableau

Web & Mobile Development: HTML, CSS, JavaScript, Bootstrap, Flask, Android

PROJECTS

Clip Retrieval using Text-based Queries

Developed **multimodal GenAI** solution for semantic video clip search using advanced text-query matching techniques

Semantic Content-based File Retrieval

Created **LLM-powered** contextual file search system transcending traditional metadata-based retrieval

EDUCATION

Deep Learning Nanodegree

Udacity

Oct 2021

[Certification](#)

B. Tech. - Software Engineering

Delhi Technological University, India

Aug 2015 - May 2019

8.79 (CGPA)