

Curriculum-Vitae

Abhinav Garg

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Education

B. Tech. – M. Tech. Dual Degree (2004 – 2009)

Indian Institute of Technology Kanpur (IIT Kanpur)

Summary

I have 15+ years of experience in working on Statistical Modelling, Machine Learning, Deep Learning, Data Science and Artificial Intelligence projects in research and commercial domains. I have diverse working experience in Academic Research, MNCs, Startups and E-Commerce unicorns like Tiki and Tokopedia for using Advanced Computer Vision, NLP techniques for solving business problems. I am looking for leadership opportunities to solve challenging business problems with advanced technologies in AI, ML and Data Science.

Key Technical Skills

- Cloud Platforms - GCP, AWS, Azure
- GenAI - OpenAI, Prompt Engineering, RAG, AI Agents, SLM Training, LLM Fine Tuning, LLM Quantisation
- Model Training - Transformers, LSTM, CNN, LightGBM, XGBoost, K-Means, kNN
- AI ML Libraries - Sklearn, Pandas, Pytorch, Tensorflow, Langchain
- Programming Languages - Python, SQL, Javascript, Java, C++

Independent Coursework

[Introduction to Machine Learning by Andrew Ng](#)

[Fundamentals of Google Cloud Platform for Big Data and Machine Learning.](#)

[Generative AI with Large Language Models](#)

[Prompt Engineering for ChatGPT](#)

Personal GenAI Projects

- Instruction trained custom SLM of 100 ~ 20M parameters [HuggingFace Repo](#)
- Building Agentic RAG web-app for Interview Preparation Chatbot
- Exploring knowledge expansion techniques for LLMs and SLMs

PROFESSIONAL WORK EXPERIENCE

Head of AI, XtraVision.ai (Fitness & Healthcare, Remote)

(Oct 2022 – Feb 2025)

- Led a team of 5 AI developers for ongoing-Development, PoC and R&D projects
- Developed RAG based personalised healthy meals recommendations from multiple restaurants
- Coordinated with team of MLOps and Full-Stack Engineers for cross-platform SDKs like JS, Android, iOS
- Implemented personalised GenAI Assistants for Musculoskeletal issues and Body-Weight management
- Developed and deployed ML models for Exercise recognition, repetitions-counting, corrective feedback

Principal Data Scientist, Tiki (Remote, E-commerce, Vietnam)

(Oct 2021 – Oct 2022)

- Price optimisation by Sales Forecasting using LightGBM ML model for different product categories
- Managed a team of Senior Data Scientists (Direct Reporting) and Dev-ops, software engineers (Indirect)
- Design of A/B experiments, statistical analysis and hypothesis testing, ML model deployment, monitoring, interpretation and Explanation

Architect AI, Icrtis, (Contracts Document Understanding, Remote)

(May 2021 – Oct 2021)

- Trained Deep Learning models (BERT, LSTM) for text classification and NER for contract documents

Lead Data Scientist – Search Relevance & Ranking, Tokopedia (E-commerce, Indonesia), Noida

(Aug 2019 – May 2021)

- Managed a team of Junior & Senior Data Scientists (Direct Reporting) for improving Search Relevance through Query understanding for users while optimizing business metrics for Organic & Ads sellers
- Involved in architect of AI solutions, ML model development, deployment, monitoring and explanation
- Increased Ads-revenue by 20% using Real-Time Search-Query based Ads-Recommendations
- Trained & deployed Deep Semantic Search AI models for improving Search Relevance
- Developed Language Models for User-Intent based Search-Query classification
- Trained Learn-to-Rank (LTR) models using Tree based and linear regression ML algorithms

Technical Lead, Data Science, Tokopedia (E-commerce, Indonesia), Noida

(Dec 2017 – Jan 2019)

- Product Classification from Titles using word2vec, N-grams embeddings from CNN based classification model trained using Tensorflow
- Brand recognition from Product Title using TF-IDF vectors and kNN classifier.
- Developed prototypes for image quality pipelines to check product images uploaded by sellers for watermarks, text overlays, advertisements, plain-background and mis-match with product category
- Developed Smart-Reply Bot for sellers to reply to buyer queries on chat using characters-based CNN model

Sr. Research & Development Engineer, Bobble Keyboard App, New Delhi

(Dec 2016 – Sept 2017)

- Language modelling for major Indian languages including their Hinglish variants for implementing AI features in the keyboard app - Transliteration (Type in Indian language characters using English characters Keypad), Next-Word prediction, Autocomplete, Autocorrect, GIF and Emoji suggestions
- Developed & deployed ML models (Random Forests, CNN based) for real time facial features detection using Android camera app
- Trained and deployed Face and Hair segmentation UNet (Deep Learning Model) on user selfie images for generating digital avatars of the user

Engineer, COWI India Pvt. Ltd., Gurgaon

(March 2013 – Nov 2016)

- Rainfall modelling using ML (Multivariate Linear Regression) and GIS Application Development
- Performed Multivariate Regression analysis for understanding effects of various physiographic parameters: Latitude, Longitude, Altitude, Distance from sea-coast and wind direction on extreme rainfall events.
- Developed a user interactive GIS Map-based web-application for visualization of rainfall models for Qatar
- Deployment of Java Spring-Boot Backend and HTML - JavaScript Frontend web application on

RESEARCH WORK EXPERIENCE

Research Assistant, Geodetic Engineering Laboratory, EPFL, Switzerland

(Dec 2010 – Feb 2012)

Worked on camera calibration techniques for cheap, less-robust, on-board cameras of UAV, drones. Automatic AR marker recognition was used to develop a fully automatic camera calibration system.

Conference Paper: [MAV-Based Real-Time Localization of Terrestrial Targets with CM-Level Accuracy: Feasibility Study](#), UAV-g 2011 conference ETH Zurich.

Master Thesis Project, IIT Kanpur, India

(Jan 2008 – May 2009)

Investigation on Classification Techniques for Hyperspectral Imagery

Developed MATLAB toolbox for unsupervised and supervised classification algorithms: K-Means, Gaussian Maximum Likelihood, SVM, Artificial Neural Networks. Dimensionality reduction algorithms: PCA, Independent Component Analysis (ICA). Chi-square based hypothesis testing and confusion matrix for accuracy analysis of different classification schemes for the Hyperspectral Imagery.

Awards

- Awarded the **General Proficiency Medal** in B.Tech. – M.Tech. Dual Degree Programme by IIT Kanpur.
- Received merit certificate for **Good Performance** in the course on **Data Structures and Algorithms**, Department of Computer Science and Engineering, IIT Kanpur, at Summer School 2005.