

PANKAJ SINGH

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SUMMARY

Engineering Manager with over 13 years experience in leading data science, software and data engineering teams that can design and build end to end pipelines of machine learning models, and then develop and deploy them as scalable services. During my time at Deloitte and Facebook, I was able to successfully lead and deliver 4 end-to-end ML projects for our clients, built large-scale automated data pipelines and helped our Applied AI team to grow from 18 to 30 people.

Avid Open Source contributors and Self motivated technical coach that likes to grow, coach and mentor team members to create a great high-quality engineering culture.

Looking for a ML Engineering Manager role.

TECHNICAL SKILLS

Deep Learning: TensorFlow, PyTorch, Fast.AI, Keras, MxNet

Machine Learning: XGBoost, SVN, Random Forests, PCA Clustering with Scikit-Learn

Data Science: Jupyter Notebooks, Pandas, Numpy, Scipy

Languages: Python, C/C++, Swift

Computer Vision: OpenCV, EfficientNet, ResNext, UNET, CGAN, CNN, Nvidia DALI

Natural Language Processing: RoBERTa, ELMO, ULMFit, LSTM, NLTK, Word2Vec

Virtualization: Docker, Kubernetes, Kubeflow

Data Engineering: Apache Airflow, Beam, AWS Glue, Data Pipeline, Cloud Composer

Data Analytics: Amazon Athena, CloudSearch, Google BigQuery, Azure Cognitive Search, Data lake Analytics

Big Data: Hadoop, Hive, Spark, HBase, BigTable

EXPERIENCE

DELOITTE, SAN JOSE

SPECIALIST MANAGER: APPLIED AI

Dec 2018 – present

- Lifted Applied AI team hiring process and increased team size from 18 to 30 people in 20 months to accomplish lack of staffing for critical clients which resulted in net 9.3 Million USD in new wins.
- Coaching team members via weekly 1:1 to set expectations and discover ways to motivate and inspire every individual.
- Designed and built an end to end Visual Search model using Pytorch ResNeXt-50 trunk and training custom model on ~2.1 Million annotated image data which empowered client ecomm frontend team to build visually similar features.
- Designed, and deployed an end-to-end NLP based auto tagging API built on top of a custom RoBERTa based text classification model that is helping client content teams to generate auto-tags on a web traffic of 250K requests per day.
- Designed, trained, and built a real time Social Media dashboard using Transfer Learning approaches on DistilBERT model on batch and streaming data from twitter, which helped the client marketing team to see aggregated readers feedback for recent book launches within 65 seconds.
- Influenced client's machine learning roadmaps, by showcasing personalization, recommendations and anomaly detection demos on client's sample data, while working directly with the client's technical leadership team.

FACEBOOK, MENLO PARK (CONTINGENT WORKER)

DATA ENGINEERING MANAGER: FAIR

JULY 2019 – APRIL 2020

- Designed, modeled, and built large-scale data pipelines for the FAIR Computer Vision team using Data Swarm, Presto and other ETL tools, which empowered the Senior Research Scientist team to train and evaluate 10+ computer vision models offline.
- Led a small team of 4 data engineers to create multiple data pipelines that produce Gold datasets, data annotations Queues and batches of ~1 Million size of Training ready Datasets.
- Designed and developed 5 automated data pipelines that first generate Image hashes from model inference and then fill up the catalog tables for daily uploads of commerce images.
- Acted as FAIR Computer Vision team members while working together with product managers, research scientists, software engineers and produced daily, weekly planned deliverables.

SKAVA, NEW YORK

ENGINEERING MANAGER: ML & AI

Aug 2013 – Dec 2018

- Led a team of 9 people including data scientists, data engineer and ML engineers to provide taxonomy verification, data collection, model design, training and testing in offline settings.
- Managed the day-to-day activities of Skava ML & AI team in a Fast Paced Agile/Scrum environment while building 30+ ML models and releasing 20+ software builds.
- Hired and grew the team from 2 to 8 people, and maintained their performance management cycle and career development.

- Designed and engineered a visual search API with ~150 ms response time that serves online predictions results from custom trained PyTorch ResNext50 models which empowered clients in-store business staff to correctly mapped local inventory with their online catalog.
- Designed and developed a CLTV (Customer Lifetime Value) Prediction Engine using LTV regression models that empowered the client sales team to see the future value of the customer with each purchase.
- Produced 10+ techno-functional requirements including performance and capacity planning while coordinating with cross functional teams and players such as product owners, managers, research scientists and system engineers.
- Conducted 10+ online metric evaluation using sessions data and Performed A/B deployment of models with infra, QA and product managers.

INFORMA, NEW YORK

TECHNICAL MANAGER: DATA SCIENCE

Aug 2011 – Aug 2013

- Instituted and performed 30+ A/B tests (Bayesian & Frequentist) on 20+ websites landing pages and presented page level testing results that influence leadership in long terms to redesign and relaunched 17 magazine websites.
- Tested 4 different working hypotheses and presented detailed results to c-executives, to show how to cut down page load time by 40% by explaining not so obvious issues.
- Conducted and performed Statistical analysis on large-scale data sets (~ 100 Million records) and presented data exploratory analysis reports on website traffic by building a analytics Dashboard

IBM, INDIA

SENIOR APPLICATION DEVELOPER

Dec 2007 - July 2010

- Designed and developed SAP BI & Portal based apps, that shows various statistical analysis on network packets data gathered from business consumers of Nokia Siemens Network in Munich, Germany
- Programmed and Developed a SAP ERP Portal App that performed statistical analysis on end users' data gathered from Denmark based Arla Foods website.

KLG SYSTEL, INDIA

SOFTWARE ENGINEER

July 2006 - Dec 2007

- Designed and developed a software system that shows end to end energy consumption data recorded from smart energy meters of PSU consumers, from a Client in the Energy Utility sector.

EDUCATION/CERTIFICATES

[AI in Healthcare Specialization](#) | MIT SLOAN, Cambridge, MA

Sep 2020

[AI for Medicine Specialization](#) | Coursera

June 2020

[Deep Learning Specialization](#) | Coursera

Mar 2018

[AI Engineer Nanodegree](#) | Udacity

Nov 2017

[Deep Learning Nanodegree](#) | Udacity

Nov 2016

M.B.A. Data Science | HULT Cambridge, MA

Aug 2011

B.E. Computer Science | MDU, India

June 2006

PROJECTS/PUBLICATIONS

[FastAI2 Vision App Templates \(Open Source, MIT License\)](#)

Aug 2020

[Keras/Tensorflow2 Vision App Templates \(Open Source, MIT License\)](#)

Dec 2019

[FastAI model deployment packages \(Open Source, MIT License\)](#)

Oct 2018

[Building Web App for Deep Learning models and Deploying to Production](#)

Nov 2018

[Beating Fine-grained Clothing Classification benchmark in 10 lines of code](#)

Oct 2018

[How to do interactive programming in a browser via Jupyter Notebook?](#)

Mar 2016

[What is Anaconda and Why should I bother about it?](#)

Feb 2016