Akshay P Nambiar

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Connect : Schedule A Call

SUMMARY

3+ years of AI/ML software development experience in EdTech and InsurTech startups. Proficient in Large Language Models, NLP, AI, and data analytics. Able to leverage cutting-edge technology and research to ideate and deliver AI-driven solutions.

With my expertise in advanced machine learning techniques and algorithms, I am able to understand business requirements and identify insights and opportunities that drive business growth.

In my previous roles, I have been able to create customized solutions that help businesses make informed decisions, optimize and automate their operations, and, unlock their full potential.

SKILLS SUMMARY

- **Languages**: Python,Unix & Shell Scripting, LaTeX, SQL
- **Tools & Frameworks**: Numpy, Pandas, PyTorch, Transformers, Langchain, Scikit-Learn, Matplotlib, XGBoost, OpenCV, Huggingface, Git, Pytest, NLTK, SpaCy, Flask, Kubernetes, Docker, GIT, Airflow, AWS, GCP,
- **MLOps**: Airbyte, Great Expectations, Weights & Biases, MLFlow, DVC, Sagemaker, Lambda, ECR, ECS, Docker, FastAPI, Streamlit, Gradio, AirFlow,
- **Technical Skills**: Large Language Modelling, Deep Learning, Natural Language Processing, Model Deployment, Model APIs
- **Soft Skills**: Leadership, Planning and Management, Writing, Extempore, Time Management

WORK EXPERIENCE

- **Gigaforce Inc.** — Noida, India
  Software Engineer AI/ML - (Full-time) — *Oct 2022 - present*

  - **SubroGPT**: Designed and curated a Custom Dataset using **Falcon 40B** for Subrogation Domain.**Instruct fine-tuned** an open source LLM with 7B parameters using **PEFT** and **LoRA** to perform **transfer learning**. Applied it to several downstream tasks like **email generation, chain of thought answering, and context understanding.**
  - **QA Retrieval Agent**: Engineered a robust QA Retrieval agent by leveraging **Langchain, FastChat5B, and ChromaDB Vector Store**. Analyzed accident descriptions and traffic laws to identify law infringements, streamlining liability determination alongside SubroGPT. Increased claim closure rate by 500%
  - **Data Extraction from Police Report**: Utilized **openCV** and **Tesseract** to identify and extract structured data from Police Reports. This automated data extraction resulted in a decrease in claim processing time by 1 hour/report.
  - **Subro Potential Application**: Created a production-ready application that could successfully analyze a claim and determine its subrogation potential. Used **TFiDF, NER, and sentence similarity** to understand the data, gather features, and trained on historical data. **Reduced the claim processing time from 100 claims/day to 10,000 claims/hour** while **increasing per claim revenue by 40%**. Used **Dockers** to deploy the application and **Airflow** for scheduling and monitoring. Daily processing of 1M+ documents to predict subrogation potential
  - **AI Enabled Claim Document Parser**: Developed an Algorithm to identify patterns and extract data from an unseen pdf while maintaining its structure. Went from POC to deployment in 1 month. This allowed streamlined text extraction resulting in significant time reduction and huge savings for clients. 250K+ documents processed to date
  - **Impact**: Successfully took several AI/ML projects from proof-of-concept to production. Developed and applied advanced algorithms in the domain of **subrogation opportunity identification, liability analysis, and text extraction** leading to increased subrogation efficiency and revenue for clients. Identified need for Airflow, WandB incorporation, set up and managed airflow and WandB to automate, schedule, monitor, and debug AI applications and artifacts
  - **Recognition**: Awarded **certificate of recognition for outstanding contribution** in the second quarter post-joining.

- **Lorraine Music Academy Pvt. Ltd.** — Gurugram, India
  Data and Technology Engineer (Full-time) — *Dec 2020 - Oct 2022*

  - **Audio Recognition Deep Learning Software**: Engineered and optimized a **deep learning model** to analyze user-recorded audio samples of piano performances, accurately assessing them and providing feedback. Deployed on a web application using Python and **EC2.**
  - **Learning Management System Portal**: Implemented a learning management system portal that onboarded all customers and tracked their progress along with ZOOM video classes and recorded lectures. Deployed using AWS and EC2.
  - **Startup Fundamentals**: Worked closed with the CEO and assisted in building **Financial Models, Valuation Reports, and Pitch Decks.** Pitched to VCs in order to get funding. **2-time cohort member of the world's 3rd biggest Startup Accelerator, IITStartups USA.**

PROJECTS

- **Ground Motion Modelling through Machine learning** — Prof. Udit Bhatia   [5/2019 - 6/2019]
    - Trained an Ensemble Model to predict Ground Motion due to Earthquakes.
    - Worked with big ground motion data with 50+ features for the last 50 years.
    - Achieved an accuracy of 92% and RMSE value of 0.86 on test data on a 70/30 split test/train basis.
    - Generated an ensemble of 3 different regression models to achieve the best fit from data consisting of 45 different variables.

- **3D object detection for autonomous vehicles** — Prof. Nipun Batra   [Jan'20 - July 20]
    - Implemented 3d object detection from LIDAR point clouds and RGB images obtained from Kaggle Dataset.
    - Modelled and Trained the LIDAR data and build a model for the real time detection of 3D objects.
    - Improved the score by categorization and providing weight to objects being detected.
    - Increased the model accuracy by using an ensemble of models(bagging and boosting).

- **Social Media Network Visualization (Instagram)** —Prof. Udit Bhatia   [May'20 - June'20]
    - Implemented a code to scrap follower/following of each of my followers' data from Instagram using Python, chrome driver, and selenium and create a directed network model.
    - Visualised a directed network system of my Instagram using nodejs and javascript. With the nodes being followers and the edges being red/green based on mutual following/unfollowing between the nodes.
    - Identified the major hubs in the network and the people's closeness to me on the online platform via centrality metrics.
    - Performed community detection to isolate communities within my friends circle and gain better insights into my group of friends. Link to the visualization
    - Helps gain insight into the social media community for any brand and business.

- **Solar Panel Efficiency measuring device and App** —Prof. Vimal Mishra   [January-April'19]
    - Designed and built an I.O.T. device to measure and remotely monitor real time efficiency of solar panels.
    - Developed an app to display computed and formatted server data. Computations and simulations were made on the server along with graph updates on app.
    - Achieved app-to-device sync over remote server.
    - Solved the problem of a decrease in the efficiency of solar panels over time due to the accumulation of dust and other particulate matter.
    - LMA App creation, server management, and wireless transmission of processed data from sensors over wi-fi.

- **Zero-Cost Cavendish Experiment** – IIT Gandhinagar — Prof. T. Vijay   [September-December'18]
    - Designed a setup that could measure the change in force in the magnitude of micro-newtons with zero cost.
    - Led a team project to develop an experiment that measures gravitational forces between day-to-day objects.
    - Established visual and experimental proof of the universal presence of gravitational force between all objects having mass.

EDUCATION

- **Indian Institute of Technology (IIT) Gandhinagar**   Gandhinagar, India
  Bachelor of Technology   *July 2017 - June 2021*
    - **Courses::** Advanced Computing, Artificial Intelligence, Networks and Complex Systems, Introduction to Game Development

COURSES

- **Advanced Computing (ES 112)**

- **Japan Studies (HS 108)**

- **Machine Learning (ES 654)**

- **Networks and complex systems**

- **Business Skills for Entrepreneurs**

- **Special topics in Management: Marketing Analytics**

- **Special topics in Management: Finance Management**

- **Special topics in Management: Social Media Marketing**

- **Introduction to Game Development—Coursera**

TECHNICAL SKILLS

- **Programming Languages:**

  - **Fluent:**Python(including scikit, keras, tensorflow, pandas, jinja), HTML, MATLAB, C♯ (unity), Solidity, Dart.

- **Tools/Softwares:** Flutter, Arduino, Raspberry Pi, Autodesk Inventor Professional, LaTeX, LTspice, Adobe After Effects, Vuforia, 3D printing, LaserCAD, openCV, Blender, shopify, wordpress, SAP2000, AnSys, AutoCAD professional, Giphy, RStudio, Adobe Photoshop, Android Studio, Remix-Etherium, Audacity.

POSITIONS OF RESPONSIBILITY

- **Intern, CMS, IIT Gandhinagar (Summer 2018)**

  - Partenered with the CMS Team to organise a two day exhaustive seminar, FLY-(finding the leader in you), taken by Harvard alumnus.

- **Secretary, Inter IIT Badminton Team, (2019-2021)**

  - Conducted Trials and chose players capable of representing the college in inter IIT.
  - Drafted proposals amounting to 1-2 lakhs in order to provide the better courts and facilities not available in college.
  - Pioneered the Badminton Super League with a team in order to promote the sport in college.
  - Coordinated with the Sports council and Team players to ensure smooth functioning of the team.

- **Joint-organizer, 3-a-side Badminton Tournament, IIT Gandhinagar Intra-College Sports Festival (Hallabol'18),Hallabol'19)**

  - Coordinated scheduling and conducted Badminton matches among more than 50 teams over a period of one week

EXTRA-CURRICULAR ACTIVITIES AND ACHIEVEMENTS

- Part of winning ROBO-WAR team of IIT Gandhinagar Intra-College Technical summit (Ignite'2018 and Ignite'2019). Made a remote-controlled Robot weighing 8 kg working on DPDT switches and using a high torque rotating blade as a weapon.

- Represented IIT Gandhinagar in the Inter IIT Sports Meet as a part of the badminton team in 2017,2018 and 2019.

- Recipient of IITGN Explorers Fellowship. Traveled across India for 47 days on a self-planned, budget trip spanning 24 states and more than 40 cities.

- Bronze medal in Khel Mahakumbh Badminton competition (2015-2016), state-level Gujarat.

- Participated in 4 MUNs, best delegate in 2 of them.

OTHER PROJECTS UNDERTAKEN

- Freelancer at freeelancer.com

  - worked as a freelancer on freelancer.com in Summer 2019.
  - successfully completed various projects in CPP, Unity, Matlab, and Python
  - freelancer.com profile — https://www.freelancer.com/u/akshaynambiar7

- Trading Bot for binary options trading.

  - created a automated-trading bot based on chart movements and basic algorithms

AWARDS & ACHIEVEMENTS

- Achieved an All India Rank (AIR) 5953 (99.4 %ile) in JEE Advanced. Out of 1M+ candidates.
- Recipient of Explorer's Fellowship.- from IIT Gandhinagar