

AMIRTHAKATESH N

Principal Data Scientist

PG-Data Science (IIT-Guwahati) | B.Tech CSE (SASTRA)

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Work Experience

7SAGES PRICING

Head of Data Science
[April 2024-Present]

- Lead and manage **data science consulting projects for pricing**, ensuring **optimal ROI** for clients.
- Provide thought leadership in **Data Science, AI and ML for pricing solutions**.

XOME (MR. COOPER GROUP)

Principal Data Scientist
[Oct 2023-April 2024]

- Managed the data science team on modernizing the product "**Xome Value**" (**Automated Valuation Models (AVMs)**) for **~150M properties in the USA** which was deployed and implemented in **Azure**.
- Lead **R&D initiatives**, notably the adoption of **Generative AI** in Xome. Conducted research on **Large multi-modal models (LLMs)** especially in the domain combining **vision and Large Language Models (LLMs)** for suggesting repair recommendations and interior design enhancements for houses.

Senior Data Scientist
[Apr 2022-Oct 2023]

- Implemented **NLP search** by leveraging **LLMs to convert natural language to structured search queries to replace existing landing page search for Xome.com** based on entering address.
- Led the integration of **generative AI for QA** at Xome, fine-tuning **open-source Large Language Models (LLMs)** to auto-diagnose and suggest fixes for bugs. This **reduced bug resolution time by 30%**, streamlined debugging, and boosted team productivity and system reliability.
- Implemented **comparable based XGBoost** to model on the attribute differences between the estimating and comparable properties which further **reduced the absolute median error by 3%**.
- Built the product "Xome Value" from **0-1 phase** by implementing **Genetic Algorithms, Neural Networks, and Random Forest** models which helped our valuation to be recognized as one of the industry leaders in the home valuation space based on **3rd party testing by AVMetrics**.
- Conducted **extensive research on Automated Valuation Models (AVMs) for the real-estate** based on various literature reviews.

Data Scientist – II
[Apr 2021-Mar 2022]

- **RETS (Real Estate Transaction Standard)** and **RESO (Real Estate Standards Organization)** schema refer to standards used in the real estate industry to facilitate the exchange of data.
- Worked on mapping of **county data from various sources to RETS and RESO schemas**, to be used across real estate platforms by utilizing advanced **Natural Language Processing (NLP)** techniques, specifically **Named Entity Recognition (NER)** to efficiently identify and classify critical real estate attributes within unstructured data sets.
- Implemented **Long Short-Term Memory (LSTM)** models, a type of **recurrent neural network (RNNs)** to handle the mapping of entities recognized by **NER (Named Entity Recognition)** to their corresponding **RETS and RESO schema** elements which achieved **93% accuracy** on mapped files.

Data Scientist – I
[Jul 2019-Mar 2021]

- Implemented **logistic regression** for a **binary classification problem** by measuring the likelihood of a property to be sold in an auction cycle and achieved **F1 score of 0.84** which **increased the sale rate in the inventory by 30% on average for an auction cycle**.
- Implemented **image recognition** initially using **traditional CNNs** to rate the kitchen interior of a house and later implemented using **Resnet** which **increased the accuracy by 5%**.
- Implemented **3D reconstruction of houses** based on LIDAR scan data using **OpenGL and PointCloud** to achieve optimal 3D alignment using **Iterative Closest Point and RANSAC algorithms**.

APPLIED DATA FINANCE

Data Scientist
[Sep 2018-Jul 2019]

- Estimating volume of potential customers for loan offers using **XGBoost** by analyzing large customer datasets based on credit scores, transaction details, response rates and other factors resulting in a **4% increase in loan conversion rates** and a **6% reduction in delinquency rates**.

ZOHO

Member of Technical Staff
[Jun 2018-Sep 2018]

- Implemented a feature to scan missing Anti-Virus Patches for Windows OS.
- Developed a feature to schedule multiple policies for deploying patches across Windows and Mac OS.
- Optimized and fixed issues for reboot policies for deploying patches.

Academic Qualifications

2020-2021	IIT Guwahati	Post Graduate Program (PGP) in Data Science
2014-2018	SASTRA University	Bachelor's Degree in Technology (B.Tech) in Computer Science and Engineering

Internships

ZOHO
[Jan 2018-Jun 2018]

- Learnt and implemented deploying software patches using **Automated Patch Deployment using Patch Manager Plus (PMP)** across Windows and Mac OS.

TRIPDAIRY
[Nov 2017-Dec 2017]

- Worked with the founders to implement email classifiers and integrated Uber/Ola APIs in Facebook messenger chat-bot for booking rides. <https://yourstory.com/2016/09/karnataka-tourism-travel-startup>

EUPRIME
[May 2017-Jun 2017]

- Implemented **food-image recognition** and learnt **Survival Analysis, Regression, Multivariate, PCA, Discriminant analysis and various other statistical tests**.

Academic Achievements

2018

- Research Publication – INDIACom March 2018 – A review on vision-based driver assistance system.(IEEE Conference ID: 42835)

2008 and 2009

- Cleared National Mathematics Talent Competition twice conducted by AMTI(The Association of Mathematics Teachers of India)

Certified Course

2022

- The **Google Cloud Advanced Solutions Lab for Machine Learning**, 5-week immersive ML training program along with Google experts

2016

- Completed a 2 credit course on "Network Science and Multi-Agent Systems" from Indian Institute of Technology, Indore with grade of 'Ex'(10/10).

Extra Curricular Activities

- Was part of college cultural team and **organized cultural fest "KURUKSASTRA"**.
- Was the **flautist of college music team** and won prizes for best band in FESTEEMER NIT-Trichy Festival.