

Hrishikesh Rao, Ph.D.

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LEAD DATA SCIENTIST

Highly experienced in providing technical leadership and leveraging machine learning & data science to solve business problems for enterprises and consumers.

RESULTS

- Directed **technical leadership** on projects improving customer experience; appointed as the **lead** for enhancing ecommerce capabilities.
- Decreased item return rate by **1%**, saving **~\$1M** annually, by improving recommendation engine results.
- Published **patents**, strengthening intellectual property.

SKILLS

Python | SQL | Deep learning | Machine learning | Scikit Learn | NumPy | Matplotlib |
Pandas | Python | Keras | Tensorflow | Pytorch | PySpark | UNIX Shell Scripting | MySQL |
BigQuery | AWS | GCP | Azure Databricks | Github | Unit testing | Docker | Natural Language
Processing | Vertex AI | Retrieval Augmented Generation | Jupyter Sagemaker | Large
Language Models

PROFESSIONAL EXPERIENCE

84.51 – Atlanta, GA

08/2024 - Present

Senior Data Scientist – Relevancy Sciences

Driving business decisions through analytics solutions, including stakeholder-focused dashboard optimization, A/B testing analysis, and development of ML-based recommendation systems for retail applications.

Key Contributions:

- Led the diagnosis and successful restoration of the customer value dashboard, which was critical for informing stakeholders about the business impact of the various data science models, by collaborating with stakeholders to map and integrate new data workflows, ensuring accurate reporting and decision-making capabilities.
- Performed timely and impactful analysis for stakeholders on the A/B test related to weekly ads experiences for consumers on the Kroger website and help inform the actionable insights related to product strategy.
- Leading the implementation of a recommender system for high-traffic areas on the Kroger website related to weekly ads and coupons projected to enhance user engagement and conversion rates.

LEVI STRAUSS & CO. – Atlanta, GA
Senior Data Scientist – Personalization

10/2021 - 04/2024

Achieved ~\$1M annual savings, reduced data curation time by months for 3000 products, and expedited project completion by 1-2 months through innovative models and mentoring.

Key Contributions:

- Led and directed a statistical model integration for size recommendations, achieving positive A/B test outcomes and annualized return savings of approximately ~\$1M.
- Developed a novel virtual try-on prototype using convolutional neural networks (CNN), gaining high visibility with upper management and creating the first data pipeline for storing image data on GCP.
- Led the development of product recommendation and comparison tools using NLP, scaling to 3000 products, reducing data curation from months to one hour, and eliminating constant monitoring.
- Mentored many junior data scientists to oversee the progress and completion of the assigned projects 1-2 months ahead of schedule.

PINDROP SECURITY – Atlanta, GA
Senior Research Scientist – Audio Analytics

01/2016 – 10/2021

Led research innovations for voice security and ensured customer satisfaction with proofs of concepts.

Key Contributions:

- Worked on multiple proofs of concept (PoC) and live customers, resulting in deals and renewals, to address customer concerns and address them through model training, deployment, and assessment of business impact.
- Improved voice biometric solution accuracy by 10% through a fully connected network (FCN) deep learning model. Technology has been patented.
- Built a novel gaussian-mixture model (GMM) based keyword spotting tool that helped discover fraud rings for business intelligence. Technology has been patented.
- Designed a biometric solution, using long-short term memory (LSTM) deep learning model for authenticating users using keypresses. Model resulted in a 10% improvement in accuracy compared to a baseline model using enterprise customer data.
- Developed and demonstrated voice conversion using generative adversarial networks (GAN) to create synthetic speech for security analysis, showcasing potential misuse scenarios to upper management.

SIDE PROJECTS

CRICKET ANALYTICS USING CHATGPT:

- Developed a Python pipeline using Selenium and BeautifulSoup to extract and transform cricket player data from online ball-by-ball commentary sources, enabling the extraction of unique features and enhanced data analysis capabilities.
- Incorporated OpenAI's API to extract difficult to retrieve data using GPT-4 model.
- Deployed [app](#) in the GPT store that runs based on GPT-4's default model.

EDUCATION

- **Ph.D.** in Electrical & Computer Engineering, Georgia Institute of Technology
- **M.S.** in Electrical & Computer Engineering, Georgia Institute of Technology
- **B.E.** in Instrumentation Engineering, University of Mumbai

CERTIFICATIONS

- [Generative AI with Large Language Models](#) (DeepLearning.AI), completed Mar. 2024
- [Neural Networks and Deep Learning](#) (DeepLearning.AI), completed Mar. 2024

PATENTS

- **Rao, H.** "Unsupervised Keyword Spotting and Word Discovery for Fraud Analytics." [US11810559B2](#).
- **Rao, H., Phatak, K., & Khoury, E.** "Improving Speaker Recognition with Quality Indicators." [US20220059121A1](#).
- **Rao H., Casal R., Khoury E., Lorimer E., Cornwell J, & Patil K.** "Behavioral biometrics using keypress temporal information" [US20240169040A1](#).