

KESHAV BHANDARI

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SUMMARY

- **Expertise:** ~3.5 years of comprehensive experience in the Artificial Intelligence (Machine Learning, Deep Learning), Big Data Analytics, Cloud Computing & Automation (AWS), Web Scraping
- **Technology Stack:** Python, R, PySpark, SQL, Selenium/Beautiful Soup, AWS, Git, Tensorflow (Advanced), PyTorch
- **A.I. Research Interests:** Explainable A.I., Recommendation Engines, Audio Signal Processing, AI + Music, NLP

EDUCATION

- **Northwestern University, McCormick School of Engineering** *Evanston, IL, USA*
 - *Master of Science in Artificial Intelligence (GPA: 4.0/4.0)* *Sep 2021– Dec 2022*
 - Coursework: NLP, ML, Deep Learning, Deep Reinforcement Learning, Deep Generative Models
- **Purdue University, Krannert School of Management** *West Lafayette, IN*
 - *Bachelor of Science in Business Management & Marketing (Dean's List, 2013, GPA: 3.6/4.0)* *Aug 2012 – May 2016*

RESEARCH WORK

- **[Interactive Audio Lab, Northwestern University](#)** *2022*
 - **NeurIPS '22 Accepted:** VoiceBox: Privacy through Real-Time Adversarial Attacks with Audio-to-Audio Models
- **Lead Data Scientist & Corresponding Author, [Project Dhvani](#)** *2021*
 - **Conference presentation:** "Augmentations to improve rare bird call classification for a highly imbalanced multi-label soundscape environment", 11th International Conference on Ecological Informatics (ICEI 2020+1), Digital University Kerala, India, Nov' 21
 - **Grant awarded:** AI for Earth grant, Azure, Microsoft, Oct' 21, "Using deep learning to build a robust automated recognition system for rare and endangered birds in India".

PROFESSIONAL EXPERIENCE

- Company: **Boston Consulting Group** *Los Angeles, CA, USA*
Position: **Summer Data Scientist Intern** *Jun 2021 – Aug 2021*
Team: **Gamma**
Major Project:
 - **Walgreens: Pricing Algo Team**
 - Built model drift scripts to understand / rectify deviations in price optimization algorithm in a MLOps framework.
 - Built competitor index reports to benchmark Walgreens prices against that of primary and secondary competitors.
- Company: **Epsilon** *Bangalore, Karnataka, India*
Position: **Senior Data Scientist** (Promoted twice) *Sep 2017 – Feb 2021*
Team: **Machine Learning Product Engineering**
Major Projects:
 - **Built and Deployed Personalized Product / Offer Recommendation Engines with Tensorflow on AWS**
 - Developed scalable sequential (NLP) deep learning based personalized recommendation engines using *LSTM-Attention & Transformers* in Python & PySpark, thereby improving clients' hit rates by **1.5%-5%**.
 - Deployed numerous end-to-end machine learning & deep learning based analytics solutions as a product, through PySpark, Python, AWS (SageMaker, Lambda, Docker, etc.) & BitBucket, achieving lifts between **3X to 9X**.
 - Implemented Electra generative / discriminative NLP research paper with composite memory efficient embeddings and improved previous BERT based cross sell and multi-buyer benchmarks by **3-7%** for retail clients.
 - **Applied Explainable Machine Learning / AI to Black Box Models**
 - Developed Gredel – a R-Shiny based package that fully automates the entire end to end predictive modeling process and makes black box XGBoost ML results interpretable.
 - Made sequential *LSTM & Transformers* deep learning predictive models interpretable by implementing a *permutation attribute importance* to extract the most important features from black box neural networks.

ACCOMPLISHMENTS

- 2nd place in Epsilon India Recommendation Engine Hackathon (26 Teams) *2020*
- Top 6% Kaggle Categorical Feature Encoding Challenge (1,342 Teams) *2019*
- Champion Innovator Spot Award, Epsilon *2019*
- Top 3% Kaggle TalkingData Ad-Tracking Fraud Detection Challenge (3,946 Teams) *2018*
- Social Impact Finalist Google Online Marketing Challenge (2,000+ Teams) *2016*

LEADERSHIP & COMMUNITY SERVICE

- **Data Kind, Bangalore Chapter** *Aug 2018 – Oct 2018*
 - Built NLP algorithm to extract tags from essays, stories & poems for Pratham Books, a non-profit publisher for underprivileged children, to improve its website's search engine presence.
- **President, Purdue Marketing Association, Purdue University** *Jan 2015 - Dec 2015*
 - Increased membership acquisition by 400% and improved retention rate by >70%.
 - Raised \$3000+ through charity events to benefit Natalie's Second Chance dog shelter.