

# AMRUTHA JAYACHANDRADHARA

Washington DC, USA

+1(202) 679 6897 | [amruthajayachandra.dhara@gmail.com](mailto:amruthajayachandra.dhara@gmail.com) | [linkedin.com/in/amrutha-jayachandra/](https://www.linkedin.com/in/amrutha-jayachandra/)  
[github.com/AmruthaJayachandradhara](https://github.com/AmruthaJayachandradhara)

## EDUCATION

**The George Washington University, Washington, DC**

**Aug 2024 - May 2026**

*Master of Science, Data Science (GPA: 3.7/4)*

**Kalpataru Institute of Technology, Karnataka, India**

**Jul 2016 - Oct 2020**

*Bachelor of Engineering, Computer Science and Engineering (GPA: 7.08/10)*

## WORK EXPERIENCE

**Open Avenus Foundation | Student Consultant**

**Jul 2025 - Aug 2025**

- Enhanced semantic search relevance by 50% through LoRA parameter-efficient fine-tuning of sentence-transformers model using TripletLoss on synthetic job title datasets.
- Engineered LLM data augmentation pipeline using Llama 3 with asynchronous API calls (asyncio) and custom parsing scripts, scaling training dataset by 5x from initial seed data.
- Developed Streamlit A/B testing application with qualitative ranking comparison and quantitative vector similarity evaluation between fine-tuned and baseline models.

**Deloitte | Data Analyst**

**Apr 2021 - Jul 2024**

- Developed multiple statistical time series forecasting models, including Prophet, SARIMA, Seasonal Naive, Moving Average, and Exponential Smoothing, to predict future demand trends.
- Enhanced forecast accuracy to >75% for major planning accounts by designing statistical and causal machine learning forecasting models with customized parameters and external demand drivers, resulting in a profit impact of \$8.4 million.
- Utilized Python and ERP systems to manage demand planning data consisting of 200K+ data points across multiple time series granularities (yearly, quarterly, monthly, weekly, daily, and hourly) and developed scenario analysis for assessing potential market changes, ensuring proactive decision-making.
- Collaborated with cross-functional teams to integrate external regressors (promotional lift, seasonality) into multivariate forecasting models and participated in S&OP meetings to align predictive outputs with supply chain optimization.

**Goalsr.Inc | Software Trainee**

**Nov 2020 - Mar 2021**

- Designed Python ETL pipelines to analyze around 200K multi-source datasets (user surveys, app analytics) for 6 startup clients, implementing statistical validation and EDA techniques that improved product-market fit accuracy by 28%.
- Developed ML models (regression, random forest) and Monte Carlo simulations for optimization challenges, implementing predictive analytics frameworks that accelerated client decision-making by 35%.
- Built 12 interactive Tableau dashboards with automated data pipelines and statistical forecasting, integrating multiple APIs to provide real-time KPI monitoring.

## ACADEMIC PROJECTS

**Deep Learning-Based Malignant Melanoma Detection in Dermoscopy Images**

**Feb 2025 - May 2025**

- Built a two-stage deep learning pipeline using DoubleU-Net segmentation and InceptionResNetV2 classification with transfer learning, achieving 0.94 ROC-AUC, 92% sensitivity, and 89% specificity in melanoma detection.
- Evaluated CNN architectures (ResNet152V2, InceptionResNetV2) using k-fold cross-validation on segmentation-derived lesion ROIs, improving malignant-benign classification accuracy by 18%.
- Developed a Streamlit evaluation framework implementing automated model comparison with statistical metrics (ROC-AUC, precision, recall) for reproducible melanoma detection performance analysis.

**Analysis of crime rates on residential property in Washington DC in 2014-18**

**Sep 2024 - Dec 2024**

- Built housing price prediction models advancing from basic linear regression to regularized techniques (Ridge, Lasso, ElasticNet) with socioeconomic feature engineering, achieving 15% RMSE improvement in house price prediction and preventing overfitting through cross-validated alpha tuning.
- Designed XGBoost classifier with Bayesian hyperparameter tuning to segment DC neighborhoods into price quintiles, achieving 85% accuracy using stratified cross-validation.
- Performed geospatial analytics with Moran's I, kernel density estimation, and spatial lag features to model neighborhood effects and improve housing price predictions.

## TECHNICAL SKILLS

- Languages and Frameworks:** SQL, Python, Pandas, NumPy, Scikit-Learn, R, TensorFlow, Keras, PyTorch, AWS S3, GCP
- Analytics and AI:** Machine Learning, Deep Learning (CNN, RNN), Natural Language Processing, Generative AI, Time Series Forecasting, Data Mining, Large Language Models

## AWARDS AND ACHIEVEMENTS

- Outstanding Performance Award, Applause Award, and Spot Award | Recognized for exceptional performance in demand forecasting accuracy at Deloitte Consulting