JAYA KHAN

Durham, NC 27705 ◆ jaya.khan@duke.edu ◆ (347) 301-5153 ◆ linkedin.com/in/jayakhan ◆ jayakhan.github.io

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EDUCATION

DUKE UNIVERSITY   **Durham, NC**
Master of Science; Major in Interdisciplinary Data Science   **2021-2023**

DR APJ KALAM TECHNICAL UNIVERSITY   **Lucknow, India**
Bachelor of Technology; Major in Electronics and Communication Engineering   **2007-2011**

EXPERIENCE

DUKE HEALTH CLINIC   **Durham, NC**
Graduate Research Scientist   **August' 2022 – Present**

◆ Implemented regression model to uncover factors that influence hard-to-diagnose lupus symptoms, projecting an increase in patient pathways to healthcare access by ~48% for suspected lupus cases.

◆ Devised Bayesian imputation strategies – Markov chain Monte Carlo estimation and Gibbs sampler technique – to handle missing values in patients' Covid19 survey data, improving the prediction of regression model with AUC being the highest at 0.703.

AMERIPRISE FINANCIAL   **Minneapolis, MN**
Data Science Intern   **May'2022 – August' 2022**

◆ Developed Gaussian mixture model to segment profitable wholesalers and use their practices to guide low-performing wholesalers, projecting a twofold increase in annual sales contribution of low-performing wholesalers.

◆ Proposed and streamlined KPIs based on relationship strength between wholesalers and financial advisors, allowing firm to strategies its sales goal across business territories based on relationship KPIs.

ADOBE   **Bengaluru, India**
Digital Strategy Analyst   **2017-2021**

◆ Contributed to $4.1MM contract with a retail giant by helping them discover pages with high bounce rate throughout the product checkout journey, creating a lift of 16% on their purchase to visit conversion rate.

◆ Streamlined new offering on Adobe Analytics to help clients prioritize mobile app performance metrics, improving clients' engagement score with the product by 7% (target annual improvement: 5%).

◆ Aided Adobe close $1.1 MM deal with a manufacturing client by handling data-silos within client's enterprise architecture through data deep-dives and cross-functional team interviews.

DELOITTE DIGITAL   **Bengaluru, India**
Technology Consultant   **2015-2017**

◆ Predicted the likelihood of shopping cart abandonments by estimating customers' propensity score through random forest, enabling a retail giant offer real-time promotions and boosting its online sales by 23%.

◆ Tailored web application to target customers of a Fortune 500 pharmaceutical client with promotional content using cosine similarity measure, improving content's click-through rate by 35%.

◆ Implemented single sign-on user-authentication module (SAML) for a multi-level marketing client, removing the need for multiple logins during a session and reducing corresponding administrative burden.

WIPRO LIMITED   **Bengaluru, India**
Java Developer   **2012-2015**

◆ Owned and developed solutions for automating complete web analytics tracking for one of the biggest banking clients, eliminating future web tracking development time by 25%.

◆ Designed XML processing API in Java programming language for a financial services client to improve the speed and accuracy of messages delivered, helping client reduce average latency by ~38%.

◆ Created logging monitoring module for an oil & gas client using Java APIs for logging and querying database, reducing their website's downtime by ~60%.

─────────────────── EXPERTISE ───────────────────

- **Programming Language:** C++, Python, Rust, R, Java, JavaScript, SQL, Excel VBA.

- **Development Environment:** Visual Studio Code, EMACS, Eclipse.

- **Data Analysis:** Random Forest, LSTM, BERT, LGBM, Stacking, Gradient Boosting, Gaussian Mixture, Neural Networks, Markov Text Generator, Hidden Markov Model, Viterbi, Semantic Vectors, Latent Dirichlet allocation, Missing Data Imputation.

- **Cloud Service:** Adobe Experience Cloud, Google Cloud Platform, Amazon Web Services.

- **CI/CD:** Docker, Jenkins, Git, Microservices, Kubernetes.

- **Data Storage**: Java Content Repository, MySQL, AWS, Postgres, Oracle, Databricks.

─────────────────── ACADEMIA PROJECTS ───────────────────

CAUSAL INFERENCE: Identify the impact of *super host* label on the revenue generation of Airbnb.

- Leveraged DAME-FLAME python library to create treatment (super hosts) and control (regular hosts) groups on an observational data of Airbnb.

- Ran regression on matched dataset provided by DAME-FLAME, with an average difference of $3,127 in revenue generation between treatment and control groups.

IMAGE SEGMENTATION: Leveraged computer vision algorithms to detect and segment a specific type of brain tumor – *glioblastoma multiforme (GBM)*, reinforcing radiologist's decision on diagnosis.

- Trained three U-nets and autoencoder with different loss functions – cross entropy, dice, weighted dice – to segment the healthy brain tissue and affected brain tissue on clinical 3D MRI data.

- This project was a success in segmenting glioblastoma multiforme from clinical MRI scans with a dice similarity score of up to 80.5%.

─────────────────── AWARDS AND RECOGINITION ───────────────────

- **Ameriprise Financial:** Recognized for publicly introducing a leader and leading the summer interns' presentation throughout the firm.

- **Ameriprise Financial:** Awarded for successfully delivering the intern project with a strict deadline.

- **United Nations:** Received honorable mention in Hackmakers Hackathon 2021 for addressing Quality Education Goal (#4.4) of United Nations; conceptualized an interactive UI on a research platform to democratize access to research content.

─────────────────── ADDITIONAL INFORMATION ───────────────────

- **Technovation:** Coached young girls to build a mobile app called *Upcyclx*; app that was created to drive awareness on ways to upcycle plastic and that later received accolades from leaders focused on sustainability globally.

- **Adobe Support:** Led automation efforts within the team at Adobe by working with process owners to identify and automate repetitive tasks using Excel macros, bringing in an addition time efficiency of 1.5 hours per week.

- **Deloitte Support:** Overhauled training programs on introduction to Adobe Experience Cloud, programs routinely delivered to 38 employees annually; consistently received 5/5 facilitator rating (other sessions averaged between 3 and 4).

- **Interests:** Running | Writing | Travelling and collecting souvenirs | Reading